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Revised Canadian Duties Effective Next Month

While Daily Newspapers Will Continue to Enter Canada Free, Regulations Differentiate Between Magazines and Periodicals—Sharp Increase Will Be Applied Upon Latter Class—Deposits of Securities of Canada Power & Paper Corp., Indicate Final Success of Protective Committee's Plans for Reorganization

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Ont., August 24, 1931.—Regulations governing the revised duties against foreign newspapers, magazines and periodicals entering Canada will become effective on September 1, with the exception of the 15 cents per lb. duty against week-end newspapers, which will not come into force until proclaimed by the government. It is also set forth that in the case of Canadians who subscribed to foreign magazines or periodicals before June 2, 1931, the higher duties will not come into effect until April 1, 1932.

In effect the duties and the regulations segregate magazines and periodicals, while daily newspapers will continue to enter Canada free of duty. Magazines with an advertising content ranging between 20 and 30 per cent of the total space will pay a duty of two cents a copy. When the advertising content exceeds 30 per cent, the tariff will be five cents a copy.

Magazines in which the advertising content does not exceed 20 per cent of the total space or those in the interests of religion, education, science, agricultural, labor or fraternal organizations, will bear no duty.

The regulations clearly differentiate between magazines and periodicals and upon the latter class, a sharp increase of duty was applied. "Periodical publications," the regulations stipulate, "will not be classified as magazines when they consist almost wholly of fiction and do not contain an amount of critical and descriptive articles, news items or articles relative thereto or to current topics equal to at least 25 per cent of the whole apart from advertising matter . . ."

When periodicals fail to come within this definition they will face a tariff of 15 cents a pound or a minimum of 15 cents a copy. This is considered almost a prohibitive duty.

The text of the regulations is as follows:

1. For the purposes hereof periodical publications will not be classified as magazines when they consist almost wholly of fiction and do not contain an amount of critical and descriptive articles, news items or articles relative thereto or to current topics equal to at least 25 per cent. of the whole apart from advertising matter; or when not regularly issued at stated intervals as frequently as at least four times a year; and nothing herein shall be so construed as to admit to classification for the purposes hereof as a magazine any publication designed primarily for advertising purposes.

2. On goods imported by mail duties payable under items 184b and 184d shall be prepaid by customs revenue stamps under the same regulations as far as are applicable thereto as are now provided for prepayment of duty under item 178a of the cutsoms tariff.

3. In the case of magazines referred to in items 184b and 184c, where the space devoted to advertisments determine the tariff classification thereof, the publishers shall, on or before the first day of September, 1931, and on or before the first days of May and November in each year thereafter, file or cause to be filed with the commissioner of customs, Ottawa, Canada, a statement showing the average percentage of total space devoted to advertisements as contained in the issues of such magazines published during the six months' period expiring on the thirty-first day of March and the thirtieth day of September prior thereto respectively. The average percentage for the period March to September will be accepted by collectors of national revenue for determination of the tariff classification for the period of six months following the thirtieth day of September next thereafter; and the average percentage for the period September to March will be accepted by collectors of national revenue for determination of the tariff classification for the period of six months following the thirty-first day of March next thereafter.

Provided, in cases where publishers do not comply with the above requirements each publisher shall at the earliest date possible file with the commissioner of customs, Ottawa, Canada, a copy of each issue, together with a statement containing true information as to the percentage of total space thereof devoted to advertisements. In all cases of shipments on which duty is not prepaid by customs duty stamps, such statement of percentage of space devoted to advertisements shall also be supplied to the consignee for information of the collector of national revenue at the port of entry.

Any act resulting in evasion of duty properly payable will render the goods liable to seizure and forfeiture and each party concerned in such infraction of the law subject to penalties as provided by the Customs Act.

(Continued on page 17)

Pennsylvania Paper Mills Increase Output

Book, Bond, and Writing Paper Manufacturers, Experience Broader Demand Than of Late—Board Mills With Converting Plants Attached, and Glassine Makers, Are Also More Active—Wrapping Paper Moving In Satisfactory Volume

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., August 24, 1931.—Distributors of wrapping paper and a few manufacturers report that business showed decided improvement in the past week, though the upturn is not anywhere near normal. However, inquiries and orders are of more encouraging type and the trade is more optimistic. Fine papers were on the mend more than a fortnight ago and within recent days have shown even wider gains among wholesalers and mill representatives. All these factors indicate a returning confidence in Fall revival of trade and pave the way for the salesmen who are ready to take advantage of the situation and go after orders with greater vigor and determination.

With the brighter outlook and spurt of demand that has taken place, manufacturers in certain lines, such as board producers with converting plants attached, book paper mills, glassine, high grade bond and writing paper makers, have been engaged in expansion of their output and in schedule of operations. Mills that have been on from three to four days per week are now on full time for the present. However, producers of roofing and building papers report little progress in production. Kraft prices are firm, as the mills hold to the rise of the past month with orders improving among the distributors. One of the large local paper houses reports orders last week for several tons of wrapping paper in this class from a customer who has not bought in large quantities for three years. This consumer is in New England. Similar orders have been coming to local distributors within the fortnight from other out of town customers but the immediate city trade demands are less encouraging.

Paper mills with converting plants, and other converters of specialties, have reported slightly better marketing conditions and larger scale of production. Fiber containers are in fair demand. Shipping drums and corrugated paper containers have also been moving more freely. Boxes of all sorts, too, show improving conditions. Manufacturing stationers and those making school supplies on wholesale scale have more orders. Converters of school papers report broader operations and demands for the coming school term. Bags are steady and moving in greater volume. Builders papers are slowly dragging along. A few inquiries drift into the distributors for roofings for the coming months stocking, but orders are slow in landing.

International Paper Offices Moved

The Philadelphia sales offices of the International Paper Company, formerly located in the Pennsylvania Building, have been removed to Room 942, Public Ledger Building. The local offices are sales headquarters for the International Paper Company's book papers and bonds.

Ormond Freile Now With Paper Merchants, Inc.

Ormond Freile, formerly connected with the advertising and publishing trade in sales promotional work, is now associated with Paper Merchants, Inc., 140 North 6th street as director of sales. He has been linked with advertising and publishing trades for more than sixteen years. Recently he was affiliated with the Reading Paper Mills, Reading, Pa. in similar capacity. He takes over the duties of the late president of Paper Merchants, Inc., Edward McCorkendale, who passed away last winter and who was also sales manager. Since the death of Mr. McCorkendale the position of sales manager has been held open to be filled with the appointment of Mr. Freile. Paper Merchants, Inc. is the former Reigel Paper Company, long linked with the Philadelphia trade and which was reorganized two years ago into the present concern with the former employees and executives of the Reigel company as officials.

E. J. Pritchard Joins Carolina Fibre Co.

E. J. Pritchard, for many years connected with the New York and Philadelphia paper trades, has joined the staff of Carolina Fibre Company, Hartsville, South Carolina. He will make his headquarters at 6555 Torresdale Avenue, this city, and will represent the mill's line of fiber wrapping paper, including butchers fibers, bogus and screenings, also the manufacturers No. 2 Manilas and Machine glazed sulphite papers in colors and white and light weights. He traveled the Philadelphia trade last week in his new capacity. He was formerly associated with the Philadelphia wrapping paper concern of Eli Resnick, which conducted a large warehouse at 2nd and Vine streets a few years ago, and since dissolved.

D. L. Ward Co. Acquires R. D. Perry

R. D. Perry, for a number of years manager of the Canfield Paper Company in Philadelphia, has associated himself with the D. L. Ward Company, fine paper merchants, of that city. Mr. Perry who has had wide experience in the paper business, will assume complete charge of the book and coated papers.

J. R. Howarth Paper Co. Holds Outing

Members of the staff of the J. R. Howarth Paper Company, 804 Sansom street, were the guests of the officials of the company at an outing and fishing cruise along the Delaware Bay last Friday and Saturday. With fourteen associates of the firm in the party, the group motored to Smyrna, Del., on Friday and after partaking of a dinner in that town continued on to Bower's Beach, near Dover, Del. there, to remain over night and spend the following day in a fishing cruise on the Bay. Of the 135 fishes that were caught the majority were landed by Thomas Ryan, head of the cutting department, who was given the "Brown Derby" for his prowess with the hook and line. There were other water pastimes enjoyed over the week end, including boating and swimming and entertainments at the hotel. The members of the firm who were hosts to the workers were: John R. Howarth, Harry Blessing, Vincent Sherlock and Abram Markley.

J. R. Howarth Attends Blank Book Makers Outing

John R. Howarth, head of the J. R. Howarth Paper Company, devoted entirely to the distribution of the Eagle A Papers of the American Writing Paper Company, represented the paper trade on the committee of the Blank Book Manufacturers and Rulers Division of the Philadelphia Typothetae at the first annual outing held by the allied trades at the historic Valley Forge Battle Grounds. The group were entertained at the Valley Forge Country Club,

founded in 1805, with dinner, golf, quoits, tennis and other outdoor sports, with 23 firms represented.

Dismantling Baeder Adamson Plant

The former sand paper manufacturing plant and glue works of the Baeder-Adamson Company, located at Allegheny Avenue and Richmond street, is being dismantled and the machinery and buildings are to be disposed of by sale. The Baeder Adamson Company sold out to the Minnesota Mining and Manufacturing Company, engaged in manufacture of similar products, which removed the business to St. Paul, Minn., where the main headquarters and plant are situated. The Philadelphia plant was abandoned a year ago but until now has been kept intact in machinery and buildings. When the units are disposed of the buildings will be sold.

Container Corp. Increases Operations

Having broadened its operations as a result of improved business, the Container Corporation of America has placed its mills and fabrication plants in the container division on full time schedule after almost an entire summer season of part time operating. There has been a growing volume of orders for containers for shipping purposes and this, of course, has been reflected in broader production of both boards and converted products in its Philadelphia plants in the Manayunk mill district.

Herman Joachim Tours New England Section

Herman Joachim, mill manager of the Philadelphia plant of the Container Corporation of America, is on a tour through New England and will visit some of the paper centers *en route*. He will return by late September.

Dominic Fischer Passes

One of the oldest executives in the paper board division of the Philadelphia paper trade passed away suddenly from heart affection last week, viz., Dominic Fischer, for more than 44 years linked with the paper board business of Philadelphia's oldest board distribution house, Philip Rudolph & Sons Co., Orianna and Willow streets. Mr. Fischer joined the firm at the age of 18 and remained throughout his adult life, in later years serving as head of the lining and cutting departments. He was 62 years of age at the time of his death. He was stricken last Friday and died on Sunday. His funeral services were attended by many friends in the box and paper trade, at Our Lady of Victory Church.

Universal Paper & Twine Bankruptcy

Morris P. Lowe, trading as the Universal Paper and Twine Company, Delaware avenue and South street, who became involved in bankruptcy a few weeks ago, filed with the United States District Court here last week schedule of assets of $16,472 and liabilities of $23,525. The firm dealt in wrapping papers, bags and specialties.

Dinner for C. T. Jewell

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., August 24, 1931.—A testimonial dinner was held this week at the Black River Valley Club by officials of the St. Regis Paper Company in behalf of Corwin T. Jewell, who resigned recently as general manager. About 75 officials attended the event during which Mr. Jewell was complimented for his zealous efforts with the concern. During the affair he was presented with a loving cup in appreciation of his services. Mr. Jewell is now enjoying a rest and has not as yet made known his future plans. A political faction has already endeavored to secure him as a mayoralty candidate at the next election but this offer was rejected.

Boston Paper Trade Happenings

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., August 24, 1931.—The box board trade is considerably interested in the discussion which took place at the convention of the National Association of Oyster Growers, Sayville, Long Island, at which the necessity of packing oysters in retail size paper containers was brought out.

The Arnold-Roberts Company has become a distributor of Buckeye Custom Cover, made by the Beckett Paper Company, Hamilton, Ohio. Four new finishes, hand-made, corduroy, fabric and stucco, have been added to the standard line. The entire range includes twelve colors and white. A very attractive sample book, showing the individuality, distinction and beauty is issued. Rockledge Bond, a rag content sheet, made by the Millers Falls Paper Company, Millers Falls, Mass., is now being handled by The Arnold-Roberts Company. This paper is manufactured, with envelopes to match, in white and ten colors.

John Carter & Co., Inc., have been appointed distributors of the Ticonderoga book papers, made by the Ticonderoga Pulp and Paper Company, Ticonderoga, N. Y.

The timely articles in the August How, published by Tileston & Hollingsworth Company, and edited by A. V. Howland, include one entitled "Strop Your Mind," emphasizing the advantages of broadening one's reading, including trade magazines. Analysis and discussion of the August sheet of the Tileston & Hollingsworth calendar are among the contents. The issue is printed on Crinoline cover, cafe, and paper of Crinoline text, antique wove, cafe. Samples of mulberry and golden orange Milton Cover are attached.

F. B. Korbel, of the P.P. Kellogg Division of the United States Envelope Company, with headquarters at Springfield, Mass., and William G. Shortess, president of the Federal Paper Board Company, Bogota, N. J., called on the trade last week.

Col. Edgar Smalley, of Edwin Butterworth Company, Ltd., Manchester, England, who has been visiting this country for a few weeks, including the American office of the company, E. Butterworth & Co., Inc., in this city, sailed for home Saturday.

Horace B. Sargent, president of E. Butterworth, Inc., left today for a motor trip through New Hampshire and Vermont, accompanied by Mrs. Sargent.

Ex-Gov. Rolland H. Spaulding of New Hampshire, president and general manager of the Spaulding Fibre Company, Tonawanda, N. Y., and North Rochester, N. H., has returned from a trip to New York.

Joseph D. Snell, treasurer of the Von Olker-Snell Paper Company, has returned from a vacation at Bar Harbor, Me., where he had been since late July.

Charles W. Fields, vice-president of Baird & Bartlett Company, was in Bath, N. H., last week and expects to be at Newfound Lake, in the same State, next week.

Charles J. O'Brien, salesman for Baird & Bartlett and chaplain of the Grosscup Pishon Post of the American Legion, was a delegate at the State Convention of the American Legion at Plymouth, Mass., last week.

The many friends of Clifton S. Hall, manager of the envelope department of John Carter & Co., Inc., will be glad to learn that he is recovering from a recent major operation, the second one in less than two years, and is expected at the office after Labor Day.

The Cellophane Cover Company, Providence, R. I., has been incorporated to manufacture cellophane novelties. The capital stock is $10,000; 100 common shares of $100 each. The incorporators are Jos. E. Adelson, Chas. M. Robinson and Maurice Robinson, Providence.

Activities of Fox River Valley Paper Mills

Union Bag & Paper Co. to Keep Two Machines In Steady Operation Hereafter At Kaukauna, Wis., Plant—Menasha Products Corp. to Construct New Warehouse Near Waxed Paper Plant—Interlake Pulp & Paper Co. to Rebuild Bleach Plant Shortly

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., August 24, 1931.—With the addition last week of fifteen men, the Union Bag and Paper Company, Kaukauna, Wis., will keep its two machines in steady operation hereafter. Since the removal of the bag division to Orange, Texas, in June, 1929, the company has operated only one machine but the crew has alternated from one to another to keep both in good condition. The plant is now working on full schedule, although with a slightly smaller crew than before the shutdown.

Construction of a new warehouse will be started at once by the Menasha Products Corporation, the carton division of the Marathon Paper Mills Company, Menasha, Wis. The structure will be "L" shaped, and will be located near the waxed paper plant. About 15,000 square feet of floor space will be provided.

Rebuilding of its bleach plant has been started by the Interlake Pulp and Paper Company, Appleton, Wis. A new building will be put up in place of the present unit, now obsolete, and most of the old equipment will be replaced with more modern machinery. An enlarged capacity also is contemplated. It is expected the new plant will be ready by spring.

Du Pont-Newport Consolidation

Common stockholders of the Newport Company, Carrollville, Wis., have ratified consolidation of the chemical and dyestuffs divisions of Newport with E. I. Du Pont de Nemours & Co. The capital stock of the Newport Manufacturing Company, the investment in the common stock of the Acetol Products, Inc., and the business and assets of the Newport Chemical Corporation and its wholly owned subsidiaries will be transferred to Du Pont in exchange for 103,500 shares of the par value of $100 each of the 6 per cent non-voting debenture stock of Du Pont, upon the terms and conditions set forth in an agreement dated July 31, 1931, between the two companies. The net worth as shown by the books on May 31, 1931, of the assets to be transferred to Du Pont was $9,527,000, while the value of the 6 per cent Du Pont non-voting debenture stock to be received therefor is more than $12,700,000 based on current market prices. The Carrollville units will be operated along the same schedules as at present by Du Pont, it is understood.

Kimberly-Clark's Good Showing

Kimberly-Clark Corporation, Neenah, Wis., will pay its usual dividend of 62½ cents a share on common stock October 1, according to present plans of officials. The payment will be made to stockholders of record September 12. The company has experienced a decline in net earnings as compared to other years but its showing is considered excellent in general with other paper corporations in the state.

Paper Chemistry Institute Nearly Ready

With practically all of the construction work and finishing completed on the new building for the Institute of Paper Chemistry, of Lawrence College, Appleton, Wis., equipment is now being installed preparatory to dedication of the building on September 23, when the college opens for the season. This year's enrollment probably will be 25 pupils as compared to 10 last season, due to the ability of the institute to handle a larger number with added facilities and a year and a half of experience behind it.

This building was made possible through donations from paper manufacturers. Most of the equipment, scaled down from that in use in mills, has been given by concerns manufacturing these lines, in order to assist the institute in its success. The building is two story, 114 long by 50 feet deep, and has two wings attached, one 80 feet deep and the other 63 feet. The exterior is beautifully designed in Lannon stone.

Digester Room Equipment

One wing houses the digester room, 30 by 60 feet, with cooking of wood and rags and the production of pulp from the half-stock. This equipment includes a stainless steel rotary digester of a capacity of 100 pounds of wood, a stationary lined digester taking 250 pounds of wood, a rag boiler for 150 pounds of rags, a rod mill, a pulp shredder, and the necessary blowpits, acid tanks, screens, beaters and wet machine. In connection with this laboratory there is a complete machine shop. On the floor above are the laboratories for testing of pulp and paper; these include three research laboratories for special work, a large laboratory for strength testing and color matching, and the laboratory for microscopic study of fibers and finished paper.

Research Laboratories

On the first floor of the main building are the offices and classrooms of the institute and the library, which contains a complete collection of books and periodicals on the subject of pulp and paper. On the second floor of the main building are located two large student research laboratories for special work in the general field of pulp and paper technology, a large student organic laboratory and weighing room, and a small research laboratory for work in cellulose chemistry. The second floor of the other wing houses the laboratories for work in colloid chemistry. In addition to a small research laboratory and a large student laboratory, there are two dark rooms, one for optical work and the other for photographic work. In the basement there is a large constant humidity room and a smaller constant low temperature room, as well as a semi-commercial laboratory for co-operative industrial research. Adequate stockrooms are provided which service directly all the laboratories. The building has been planned with the idea of a future enlargement which shall take care of a paper machine and additional equipment connected with the conversion of pulp and paper.

News of the Industry

Fire protection facilities in northern Wisconsin timber areas have been increased through the purchase by the Wisconsin Conservation Commission of 14 trucks and 22 gasoline power water pumpers. These will be distributed in the various fire districts. The commission also has added 36,800 feet of hose and is building a special machine equipped with a 300-gallon centrifugal pump to combat peat fires. During the last year the federal government spent $140,125 on its three federal forest units

in Wisconsin, according to the fiscal report of the United States forestry service. An additional $171,551 was spent for purchase of additional lands. Of the routine expenditures, $60,000 went for roads and firelines and $28,000 for suppression of forest fires.

C. A. Youngchild, general paper mill superintendent for the Nekoosa-Edwards Paper Company, Nekoosa, Wis., has resigned to accept the position of production manager for the Southern Kraft Corporation, a subsidiary of the International Paper Company. Mr. Youngchild spent 29 years with the former company. He will be stationed at Mobile, Ala., and will have charge of mills at Mobile, Moss Point, Miss., and Panama City, Fla.

A resolution paying tribute to Alexander Noble Strange, recently deceased, has been adopted by the Menasha Club, Menasha, Wis. Mr. Strange is referred to as one of the pioneers in the paper industry of the Fox River Valley.

Willard Charles Gilman, an employee of the Nekoosa-Edwards Paper Company, Nekoosa, Wis., was killed instantly last week when a well at his home caved in on him while he was extricating a drill.

REVISED CANADIAN DUTIES

(Continued from page 13)

4. Provided, however, that in respect of subscriptions bona fide contracted for and accepted on or before 2nd June, 1931, the duties imposed by items 184b and 184d shall be held not to apply until the first day of April, 1932.

Tariff items 184, 184b, 184c and 184d, provide as follows:

General Tariff

184—Newspapers, unbound, N.O.P., tailors', milliners' and mantle-makers' fashion plates, when imported in single copies in sheet form with periodical trade journals; magazines published in other than the English or the French language. Free.

184b—Magazines, including agricultural, business, technical and trade journals, unbound or paper-bound, which, by reason of their advertising content, are subject in the country of origin to zone rates of postage based upon such advertising content:

(I) When the space devoted to advertisements exceeds 20 per centum, but does not exceed 30 per centum of the total space. Per copy, two cents.

(II.) When the space devoted to advertisements exceeds 30 per centum of the total space. Per copy, five cents.

184c—Magazines in which the advertising matter does not exceed 20 per centum of the total space and magazines maintained by and in the interest of religious, educational, scientific, philanthropic, agricultural, labor, or fraternal organizations or associations not organized for profit and none of the net income of which insures to the benefit of any private individual. Free.

184d—Periodicals or portions of newspapers consisting largely of fiction and/or feature stories or articles and/or comic supplements. Per pound, 15 cents.

Provided, that the duty under this tariff item shall be not less than per copy, 15 cents.

Provided, that nothing in tariff items 184, 184a, 184b, 184c or 184d shall affect in any way the provisions of item 1201 of Schedule C to the customs tariff.

Provided, further, that the Governor-in-Council may make such regulations as are deemed necessary to carry out the provisions of tariff items 184, 184a, 184b, 184c and 184d.

Provided, further, that the rate of duty specified in tariff items 184b and 184d shall be effective on and after the first day of September, 1931, except as regards the portions of newspapers, including comic supplements, referred to in tariff item 184d, in respect of which newspapers and/or supplements the rates of duty specified in said item shall become effective upon proclamation by the Governor-in-Council.

Publications primarily for advertising purposes are dutiable under tariff item 178 at 15 per lb., but not less than 35 per cent. al valorem, general tariff.

Canada Power & Paper Reorganization

Notices will shortly be sent out calling the various meetings of the various groups of security holders of Canada Power and Paper Corporation to give final approval to the plan of the Security Protective Committee. Meanwhile deposit of securities with the Committee for exchange into the securities of the proposed new company continues. Up to last Wednesday deposits of bonds had reached a total of $37,321,812 par value, or 87.1 per cent. Debentures of a par value of $27,512,750, or 77.5 per cent. of the amount outstanding had been turned in, as had preferred to the amount of $19,621,800, or 81.6 per cent. Deposits of common stocks totalled 1,203,252 no par value shares, or 85.3 per cent. of the amount outstanding.

Decline in News Print Exports

The fact that in July Canadian news print mills operated at 56.8 per cent of capacity, as compared with 60.3 per cent in June and 71.3 per cent in July last year, is another reminder of the difficult conditions under which the industry is operating. As a matter of fact, all things considered, production has kept up well, and the industry would be better off than many had not capacity been increased at such a rapid rate in recent years. For the period January to July of 1931, Canadian mills shipped 1,309,155 tons, which compares with 1,529,811 in the banner year of 1929. Shipments this year are running at approximately the same volume as in 1928, and are not so far behind those of last year as might be expected. The exports in detail for the first six months of the present calendar year, as compared with those in the like period of 1930, have been as follows:

	Six Months	
	1931 Tons	1930 Tons
United Kingdom	41,781	54,268
Cuba	4,306	4,976
Jamaica	694	744
Argentina	23,007	30,387
Other Latin Countries	6,062	2,603
South Africa	7,554	8,225
Australia	14,178	26,145
New Zealand	8,355	11,471
All other	9,219	2,559
Overseas total	116,056	141,378
U. S. A.	909,615	1,026,226
Grand total	1,025,671	1,167,604

More Russian Wood Arrives at Albany

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., August 17, 1931.—A cargo of about 5,800 tons of Russian pulpwood arrived at the local port terminal early this week for the mills of the International Paper Company in Northern New York and the unloading operations were immediately started. The shipment came from Leningrad, Russia, and is regarded as the largest to reach here this season. Similar cargoes are expected during the next few weeks as it is understood that contract has been made providing for the arrival here of a number of additional loads before the season closes. The ship was several weeks at Leningrad and brought to that country a large consignment of machinery, it was learned. The Fort Orange Stevedoring Company is in charge of the work of transferring the pulpwood to freight cars prior to shipment to the mills.

Ontario Paper Mills Fairly Well Employed

Prevailing Demand for Book Papers Excellent — Coated Paper Stock In Better Request—Wrapping Paper, Including Kraft, and Paper Bags Only Moderately Active At Present—Reduction In Prices of All Kinds of Tissues Announced

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., August 24, 1931.—A reduction of 3 per cent. in the wholesale prices of tissues featured the paper market this week. The drop had been anticipated for some little time and will help reduce the amount of foreign competition that has existed in the light weight paper market for some months past. All lines of tissues, including crepes, crepe specialties, napkins, towels and toilets. Prices of other paper lines continue firm and no immediate changes are anticipated. Demand for fine papers is showing some slight improvement but it is still affected by the holiday season. There is a decidedly better tone to the printing trade and some of the larger plants in the city are quite busy.

It is confidently expected that as a result of the recent tariff imposition the printing of American publications in Canada will develop into good business for Canadian printers and it is stated that in one or two instances already Toronto presses are running on publications for American firms with more in the offing. This, together with a certain amount of printing that always precedes the big National Exhibition in Toronto, is having a favorable effect in increasing the consumption of fine papers.

Coarse papers are in light demand and the market for them has not shown the improvement expected of it at this season of the year. Paper converting firms could handle a good deal more business than is coming their way. Envelope manufacturers report conditions as sluggish and manufacturing stationery lines are moving slowly. In the paper trade generally collections are reflecting dull times.

With the exception of the news print mills most of the paper plants are fairly well employed although none of them are running to capacity. Of the fine paper lines, book papers are probably the best in demand, although slightly more coated stock is being sold now than was the case a few months ago. In the coarse paper field the demand for both paper bags and wrapping paper, including kraft paper, is light.

Spruce Falls Sales Decrease

Reporting sales of news print paper and sulphite pulp at 14.5 per cent. less than in the previous fiscal period, the report of Spruce Falls Power and Paper Company, with mills at Kapuskasing, Ont., for the year ended April 30, 1931, shows bond interest earned 1.94 times as compared with 2.52 times in the previous year. No reduction was made in dividends paid on the first and second preferred stocks which are privately owned. The sole public interest rests in the 5½ per cent. first mortgage serial bonds of which there are $14,000,000 outstanding. While reduced sales of the company are stated to be due in part to the lower prices received for sulphite pulp and substantial reduction in news print prices during the first four months of the fiscal year, the decline is chiefly due to the fact that both paper and pulp mills operated at less capacity even than the previous year. This was in spite of the fact that the company had contracts for a considerable amount of tonnage of news print paper in excess of the tonnage produced. During the year $542,563 was expended on additional improvements made with a view to increased efficiency in operation and consequent lower costs of production.

Paper Firm to Build Warehouse

This week excavating operations were started for the foundation of the three-story warehouse and general offices, which will be erected for the Buntin Reid Company, wholesale paper dealers, which for years has conducted their business in inadequate premises on Scott street, Toronto. The building is to be erected at 117-125 Peter street. Of fireproof, reinforced concrete construction, it will afford approximately 50,000 square feet of floor space, with 100 feet frontage on Peter street and a depth of 165 feet with lanes and three sides. Yolles & Rottenberg have the general construction contract.

Notes and Jottings of the Trade

Roy Ecclestone, sales manager of the Rolland Paper Company, Ltd., Montreal, spent several days in Toronto recently on a visit to the local office.

The south wall of the Garden City Paper Mills building at St. Catharines, Ont., collapsed a few days ago as a result of undermining by water from the old Welland Canal. The old canal was dewatered for a couple of days to allow the extent of the damage to be ascertained and this involved the closing down of mills belonging to Provincial Paper Mills and Alliance Paper Mills. Repairs are being rushed and operations will resume in a couple of weeks time.

A. J. Jewett, of Provincial Paper, Ltd., Toronto office, has returned from a business trip to Chicago.

Louis Lemieux, tariff expert of the Canadian Pulp and Paper Association, was a recent business visitor to Toronto.

V. T. Haney, manager of the Toronto office of the Rolland Paper Company, has gone on a vacation trip to the Maine coast.

A fine new flag and flag pole, the gift of Charles V. Syrett, of the C. V. Syrett Paper Company, Toronto, to St. Johns Rest Camp at Cuthbert's Point, were received with ceremony at the Point recently. A number of paper men, who are members of the Toronto Garrison Business Men's Association, were present at the function.

"Mayfair" was chosen by the Howard Smith Paper Mills recently for a new paper to be put on the market. Over four hundred names were suggested for the new cover stock and the winner of the contest received a prize of $100.

Dominion Boxboards, Ltd., Toronto, has experienced good business during the first seven months of the current year, according to a report just issued. The company has not felt keenly the period of depression in the paper box industry and during June and July the plant was operating full time. This is due to the fact that very little of its output comprises the types that have been subject to keen competition. The company disposes of one-half of its output to Dominion Envelopes and Cartons, Toronto, an associated company, which operated two shifts daily last month. The company's earning power is said to have been consistently good and its financial position is considered sound.

New Doctor

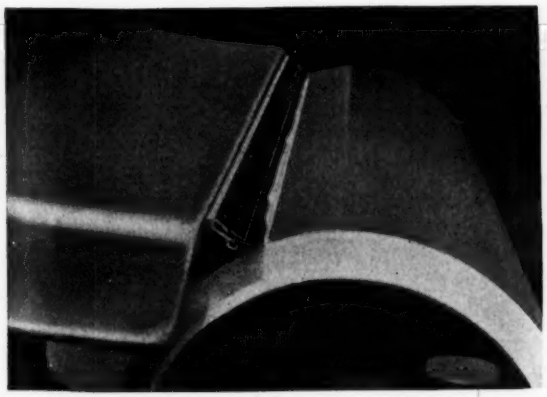
Ends Press Roll Troubles

Hi-Angle Principle offers perfect flexibility . . . continuously faultless doctoring

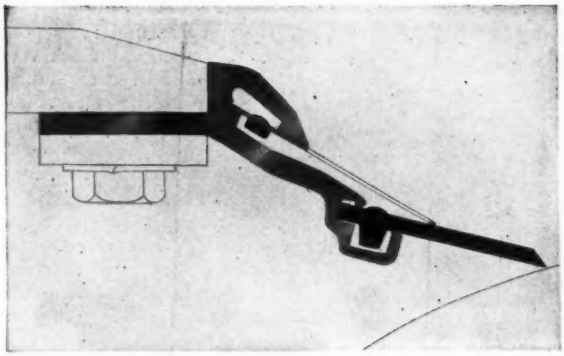
Pick-ups and breaks caused by faulty doctoring . . . frequent blade replacements . . . endless adjustments . . . *these, and all other press roll doctor troubles are stopped at once,* when the new Vickery Hi-Angle Doctor goes to work on a roll.

Try this remarkable new doctor on one of your own press rolls . . . at our expense. Like other papermakers, you will call it the world's finest press roll doctor.

BIRD MACHINE COMPANY
SOUTH WALPOLE - - MASSACHUSETTS



The Hi-Angle blade hugs the roll, keeps every inch of surface in perfect condition.



✻ *Here are the features you've been looking for*

- ✻ ***Perfect two-way flexibility*** — the blade is freely supported—follows every bit of roll surface uniformly.
- ✻ ***Steep Operating Angle*** — permits cleaner doctoring with less pressure —no heeling.
- ✻ ***Water-tight*** — nothing can pass the blade.
- ✻ ***Long Blade Life*** — blades last long, cost little.
- ✻ ***Easy Blade Replacement*** — no tools required — only one minute.
- ✻ ***Economical, Automatic Operation*** — simple, low-cost blades — no adjustments, no fitting to bother with.
- ✻ ***Continuously Clean Press Rolls*** — over every inch of surface, day-in and day-out.

VICKERY HI-ANGLE DOCTOR

4997

Paper Demand Rather Irregular In Chicago

Situation Constantly Changing and Local Market Fails to Exhibit Any Definite Signs of Improvement—Fine Paper Section More Stable, Following Effects of Recent Price Adjustments—Kraft Wrapping Paper Going Forward Freely

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., August 22, 1931—A spotty condition prevails in the Chicago paper market but, despite this fact, average business seems to be somewhat encouraging, according to reports. One week paper representatives report unusual amounts of tonnage placed. The next week volume falls off to a minimum. This condition is explained by the fact that buyers are holding off until the last minute for heavy replacement orders instead of keeping up a steady demand. The general market has yet to show a definite healthy sign of improvement because of this constantly changing situation. On the whole, however, the average seems to be improving. Some representatives are taking heart over the willingness of the conservative East to predict improvement in the Fall. Prices in all markets are reported stable, the fine paper group, the latest to feel the effect of price adjustments, reporting stability at this time. Kraft prices are firm and volume, though low, has a healthy tone. Ground woods are unchanged over last week and news print is averaging around 53 per cent capacity according to statements made here. The board market is very sluggish. Books and covers are unchanged over last week. Fine papers are spotty but the average volume compares favorably with this period last year. Waste papers remain quiet with little or no changes in market prices reported.

Container Corp. Improves Position

The Container Corporation, Chicago, one of the representative firms in the container field, showed an improved financial position on its June 30 balance sheet and gave some indication of improvement through lowering of costs. The last report shows current assets of $3,993,042 and current liabilities of $803,457 as compared with $4,039,979 and $1,031,119 respectively on December 31, 1930. Cash increased to $509,468 from $222,144.

In a letter to stockholders, President Walter P. Paepcke stated that the outlook for the last half of this year is dependent largely on general business conditions and price levels in the paper board industry. "Normally the volume during July and August is low," he said, "and to date this year is no exception. As selling prices at the present time are extremely low, operating results for these two months, at least, are expected to be quite unsatisfactory. Ordinarily the paper board industry experiences an increase in volume during September, October and November, followed by a substantial drop in December. So far there is no indication of this usual seasonal pick-up." The company, in making its balance sheet report, shows a reduction in selling and administrative expenses during the first half of the year of 20 per cent from the same period of 1930.

Merchandising News Print

There may be a news print firm or two that can get from a lead story in the Chicago *Tribune* of August 21 some valuable dope to pass on to buyers of their own product. Under the heading "Depression Can Be Beaten; The *Tribune* Does It" the Chicago newspaper goes into detail concerning its efforts to build business in an "off" year. The introduction of two-color printing, necessitating expansion of the *Tribune's* paper mill at Thorold and involving other expenses, is mentioned as one example of expansion rather than curtailment. A definite campaign to seek out and feature unusual news was also included as a reason for "*Tribune* growth which has sent circulation close to the million mark." The two-color advertisement program interested advertisers—and paid them. An experimental laboratory at the Thorold mill introduced a clearer and whiter sheet. "We are making our paper more desirable for readers and thus more desirable for advertisers, a fact confirmed by the steady increase in our sales of two color advertising and in the large number of publishers who have adopted two color since we began to promote it vigorously," concludes the article. The *Tribune* statement seems to bear out the tendency that news print can be made into a "specialty" by wise manufacturers—the fact that the public is willing to buy something that has more and more distinction—in cleaner, brighter paper, in two color printing, etc. Perhaps manufacturers, by reading the *Tribune* "depression-proof statement," may begin to more properly merchandise news print and better adapt it to color printing and, perhaps, open up a wider market for that product.

News of the Trade

Jim Coy, Junioo, office manager of the Chicago sales office of the Eastern Manufacturing Company, is now taking a two weeks vacation. Mr. Coy and his wife are motoring through the eastern part of the United States and will spend some of the time going through the three mills of the Eastern Manufacturing Company.

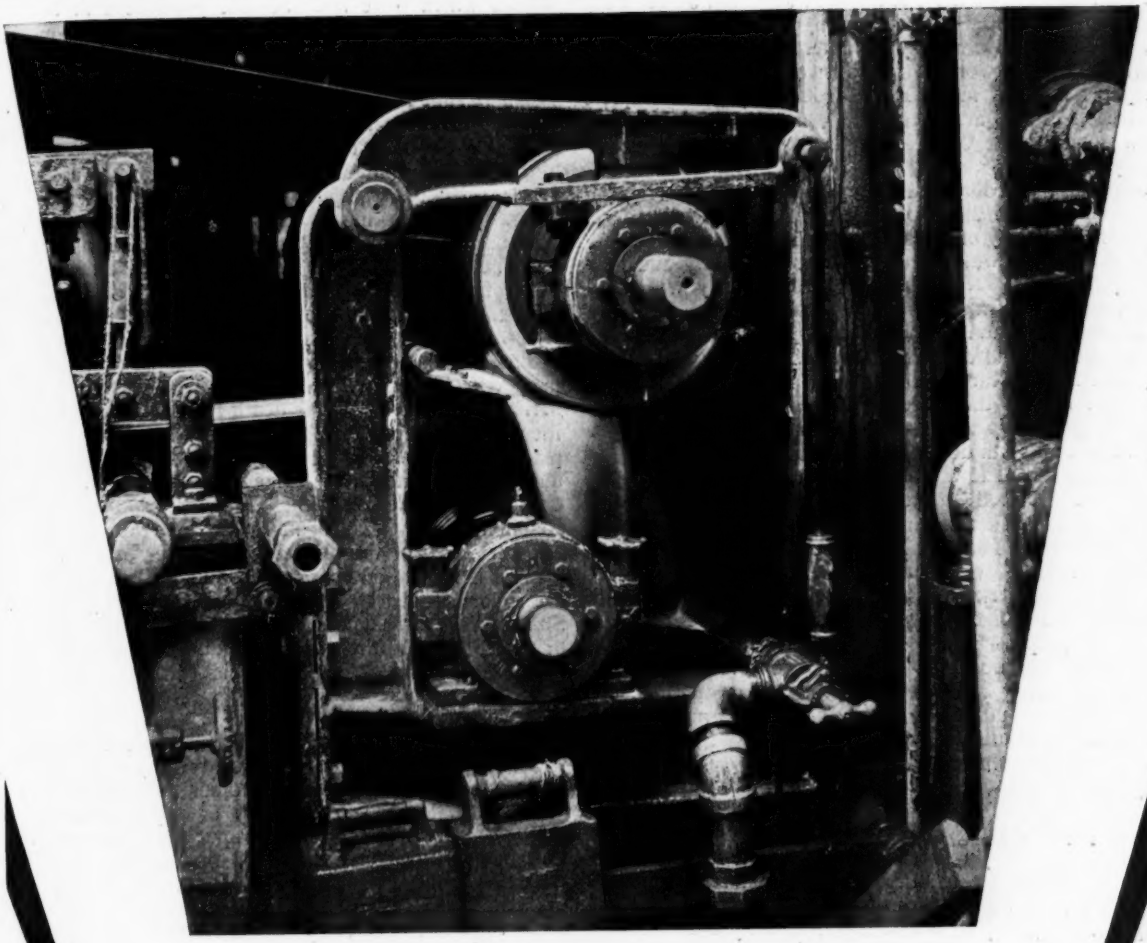
W. P. McNulty, one of the three popular brothers identified with McNulty Paper and Twine Corporation, celebrated his 41st birthday on August 15 by staging a party for a number of his good friends. A part of the entertainment was furnished at the Chicago Athletic Association and a good time was had by all.

A new paper firm, the Lincoln Paper Company, has recently been incorporated for $100,000. The new concern, with offices at 608 South Dearborn street, Chicago, will handle all kinds of paper. Included in the incorporators are K. M. Henderson, G. H. Abbott and J. M. Cheney.

Westvaco Inspirations for Printers, number 66, published by the West Virginia Pulp and Paper Company, delves back into history for its feature article on "Lithography Romantique, 1840," and once again paper buyers and printers are treated to an interesting story on the development of lithography. "The Pageant of Motor Car Illustration," "Twists From the Usual" and "A Little Journey Through the Home," are other features.

An exceptionally fine four page folder describing "Allied Dependable Offset" made by the Allied Paper Mills, has been circulated through the Chicago market by the Chicago office of the mills at 400 West Madison street. The second page of the folder describes the "Improved offset" and the "generous offer" made to paper users by the company. The Allied Offset papers—both in the Dependable and Liberty grades are also available in embossed finishes including Canvas, Leatherine, Levant, Panther, Pin Seal and Shoe-Box. The third cover carries an unusual four color illustration printed on Allied Dependable Offset, White, 80 lb. basis, which adds a great deal in backing up the copy describing the sheet.

DOWNINGTOWN



EXTRACTOR ROLL

(PATENTS PENDING)

SAVES $2000.00 YEARLY IN POWER

When the Downingtown Extractor Roll was installed on a machine making 22 point board, a suction drum roll, vacuum pump, 40 H. P. motor, two pair of wringer rolls and two pair of primary press rolls were eliminated. The saving in power alone for the 40 H. P. motor, amounts to about $2000 yearly. Aside from this, the speed of the machine was increased 20% and the sheet goes to the dryers 1% dryer than ever before, thus saving steam. Further, the pop test of the sheet was increased 17 points with no change in furnish. This Extractor Roll removed as much as 3¼ lbs. of water per pound of finished board and the installation paid for itself in a few months' time. Write us for actual performance facts and figures.

The Downingtown Manufacturing Co., Downingtown, Pa.

TAPPI To Visit Kalamazoo Paper Mills

Those chemists and mill executives who plan to attend the Fall meeting of the Technical Association of the Pulp and Paper Industry in Kalamazoo, Mich., on September 24, 25 and 26, 1951, may be interested in a few brief sketches covering some of the history and description of the paper industry in the Kalamazoo valley. No complete discussion can be attempted but it may be worthwhile to show some of the background surrounding this local industry.

Kalamazoo has long had a reputation as a thriving paper making center and those attending the convention will find a wide variety of mills making an assortment of paper products. They will find up to date machinery and adequately equipped technical laboratories. They will meet men who are outstanding in the paper profession, many of whom have moved to Kalamazoo from other sections of this country and even from foreign shores. Above all, they will find a hearty welcome.

On the wall of the office of one of Kalamazoo's paper mills hangs a very interesting document. It is the legal apprenticeship form under the terms of which Joseph Bryant became bound to a master, William Howard, a paper maker, for a period of six years in return for which he was to be initiated into the "art, trade and mysteries of paper making." This ancient document, faded and worn with age, is dated October 29, 1812. This same Joseph Bryant later had two sons. One was Noah Bryant and the other was Alfred Bryant, grandfather of Mr. Merrill B. King, president of the Rex Paper Company on whose wall the document now hangs. Noah Bryant's name is intimately connected with the development of paper making in Kalamazoo through his connection with several mills including, of course, the Bryant Paper Company which bears his name.

Kalamazoo Paper Co.

Other paper making talent has been drawn from other localities and history tells us that in 1866 some men came to Kalamazoo from Fitchburg, Mass., to establish a paper mill which later became known as the Kalamazoo Paper Company. A group of Kalamazoo's County citizens met at the Michigan National Bank on October 1, 1866, and organized the above company. The mill was built on Portage Creek and was put into operation in 1867 to make paper out of bleached straw pulp. Early residents tell of seeing huge carts loaded with straw being drawn through the town by ox teams to the old "Straw Mill." This mill was destroyed by fire in 1872 and was rebuilt.

The Kalamazoo Paper Company has gradually expanded by direct building and by buying other companies. In 1898 it took over what was once known as the Botsford Paper Mill Company, which is now known as the No. 2 Mill. In 1902 the present No. 1 Mill was built.

In the same year a company known as the Riverview Coated Paper Company was organized under the management of Mr. Felix Pagenstecher. This mill was built to make coated paper and was expanded until eighteen coating machines were in operation. It was eventually decided to begin the manufacture of paper for coating and a paper mill was constructed. This company was located very close to the Kalamazoo Paper Company and eventually merged with the older company and is now one of its important units. This gave the Kalamazoo Paper Company three paper mills and two coating mills.

The old payroll books of the Kalamazoo Paper Company are very interesting as they contain a great many names which have later become prominent in the paper industry of this vicinity. It is only natural that men connected with this large venture should branch out and become connected with newer companies. For example, Noah Bryant is listed as a superintendent and F. H. Milham as bookkeeper. Both of these were later instrumental in the development of the Bryant Paper Company. George Bardeen and William Loveland were at different times secretary of the Company and were later active in newer mills. John F. King was a machine tender in the No. 1 Mill of the Kalamazoo Paper Company and his name has since become famous for his connection with the King Paper Company, now a division of the Allied Paper Mills and with the Rex Paper Company, now managed by his son, Merrill B. King, mentioned early in this story.

The original president of the Kalamazoo Paper Company was Mr. John P. Woodbury who was succeeded by Mr. S. A. Gibson. At his death in 1899 the present president and general manager, Mr. F. M. Hodge took his place. Other officers include A. E. Curtenius, secretary and treasurer and D. F. Altland, vice president. The present general superintendent of paper making is "Mike" Redmond who is probably one of the best known and best liked of the old school of paper makers. "Pete" Denner is in general charge of coating. The various mills are superintended by David Beveridge, John Jager, D. C. Smith, William Redmond and Herman Frank. The grades of paper include the various kinds of book and coated papers and other similar lines.

Allied Paper Mills

Mention was made of the Allied Paper Mills and although this company is comparatively young under its present name it is composed of older units, some of them dating back to the early history of paper making. The company known as the Allied Paper Mills was formed in 1921 through the consolidation of the Bardeen Paper Company of Otsego, Mich., and the Monarch and King Paper Companies of Kalamazoo. Back in 1887 George E. Bardeen resigned as secretary of the Kalamazoo Paper Company and went to Otsego where he erected the first unit of the Bardeen Paper Company. He was also connected with the Otsego Coated Paper Company which was later absorbed by the Bardeen Paper Company.

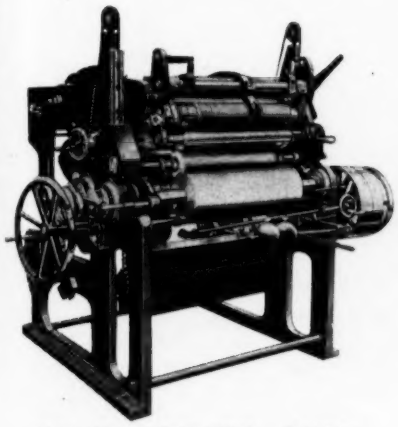
The Monarch Paper Company was officially organized in 1906 taking over the plant of the Gibson Paper Company located on the site of some of the original buildings of the Kalamazoo Paper Company. Some of the older buildings were found usable and a new up-to-date mill was erected around these. George O. Comfort was the original president, this position being held later by Alex G. Gilman.

The King Paper Company was organized in 1901 by John F. King who, as explained earlier, was the machine tender at one time in the old mill of the Kalamazoo Paper Company. Arthur L. Platt was president of the company.

The consolidation of these three units gives the Allied Paper Mills four paper mills equipped with ten paper machines and also three coating mills equipped with twenty five coating machines. The Corporation is headed by Alex G. Gilman acting as President, with W. A. Anderson, V. P. in charge of Production and D. R. Curtenius, Comptroller. The company has always believed in technical

Precision Roll Slitting Machines for Cable Papers

GOEBEL



Cable Paper Roll Slitting Machine
Model 11 F
for rolls from 15/64" upwards, winding to the hardness of stone, working width 39½".

German Patent

Cable Paper Roll Slitting Machine combined with four-colour aniline printing device for coils, for printing length-lines from 13/64" upwards, working with 39½".

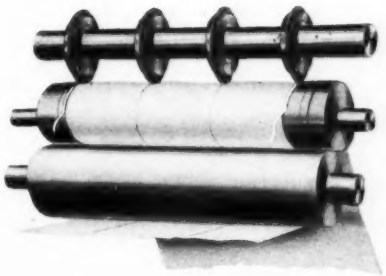
German Patent

Several Thousands of Goebel Machines have been supplied all over the world

Numerous Models
to meet the most different requirements

Slitting and Re-Reeling Machines
up to 240" of working width

Roll Slitting Machines
for cutting narrow coils down to 1/50" of cutting width



Cliché

Cliché

All Machines embody the famous
GOEBEL SLITTING SYSTEM

Dust-free cleancut smooth slitting edges perfect separation of the finished rolls

GOEBEL A.-G. Darmstadt
GERMANY

control and the chief chemist in charge of this work is W. Kent Kidder, who has been very active in the work of the TAPPI. The papers manufactured include machine finished and high grade coated book papers and similar allied products.

Bryant Paper Company

Mention has also been made of the Bryant Paper Company named after Noah Bryant. This company was originally incorporated in 1895, Frank H. Milham being one of the prime movers in its organization, and its principal executive until the time of his death. In 1921 he was succeeded by Felix Pagenstecher, mentioned earlier as being instrumental in the building and organization of the Riverview Coated Paper Company, which later became a unit of the Kalamazoo Paper Company. W. B. Clements acts as general superintendent, while various units are in charge of Nick Collignon, George Pountain, Otto Fischer and Robert Smith.

The company started with two paper machines and has expanded until it now operates nine machines. The Imperial Coating Division operates twenty coating machines with a normal capacity of about 70 tons daily. The principal products are coated, super-calendered and machine finished book papers, and also lithographed, label and offset papers, as well as specialties.

The technical men throughout the paper industry are well acquainted with Elbert Milham who for many years has been in charge of the chemical laboratories of the Bryant Paper Company.

Rex Paper Company

While the Rex Paper Company is one of the younger institutions of the Kalamazoo Valley, having been founded in 1915, it has been a progressive, up to date and prosperous company. As mentioned previously, it was organized by John F. King, one of the prominent figures in the development of the paper industry. Any history of paper making in Kalamazoo includes frequent reference to the name of Mr. King.

The company is now managed by Merrill B. King, descendant of a long line of paper makers. Others connected with the Rex Paper Company include Roy V. McCulfor, treasurer and Harry Bradford, secretary and vice-president. The paper mill is under the superintendance of Arthur W. Cole and the coating mill is in charge of Henry Nendorf. Mr. Cole came to Kalamazoo from Wisconsin and looks forward to meeting many of his friends during the Convention of the Technical Association in September. The products of the Rex Paper Company include high grade coated papers.

Hawthorne and Lee Paper Companies

The so-called "fine paper industry" is represented in the Kalamazoo Valley by the Hawthorne Paper Company and the Lee Paper Company. The latter is located at Vicksburg, Mich., just south of Kalamazoo. It was incorporated in July, 1903, with Fred E. Lee as President, George Bardeen being one of the incorporators. Vicksburg was chosen because of the water supply. The production of the Lee Paper Company includes bond, ledgers, high grade papers and specialties. Mr. Lee is now chairman of the board, while Norman Bardeen is president, treasurer and general manager. The superintendent in charge of mill operation is John H. Weimer and all chemical work is under the direction of M. D. Bardeen, who is chairman of the local section of TAPPI, and therefore very active in the plans for the coming convention.

The Hawthorne Paper Company is located in Kalamazoo and makes fine papers similar in nature to those made by the Lee Paper Company, including bond and ledger papers, containing rag pulp. Both air dried and machine dried papers are manufactured. This company was organized in July, 1911, when one machine was installed. Since then a second machine has been built and the equipment has always been kept up to date as typified by the recent installation of centrifugal cleaning equipment. The water supply comes from artesian wells. George H. Gerpheide is president of the company and the superintendent is Homer Stafford. Chemical work is under the direction of Carl Schneider. Both Mr. Stafford and Mr. Schneider are widely known throughout the paper industry, especially in New York State and are looking forward to meeting many of their friends in Kalamazoo during the fall meeting.

Michigan Paper Co.

Thinking again of mills making book papers and similar lines, mention should be made of the Michigan Paper Company located at Plainwell, Michigan, just a few miles north of Kalamazoo on the Kalamazoo River.

This mill was originally organized in 1887 thereby being one of the older institutions in this vicinity. However, the original buildings are not standing, the mill having been completely rebuilt, it being the policy of the company to keep the mill property and all equipment thoroughly modern. A very modern power plant is one of the recent additions. This is now a four machine mill.

In addition to the paper mill at Plainwell the company owns and operates a division in Kalamazoo, formerly known as the Bradford Paper Company where coated papers are made. The products of the company include machine finished, supercalendered, and coated book papers, catalog and other specialties.

The management of the mill is now in the hands of George Gilkey, acting as president and treasurer, while the paper mill is superintended by Paul Fortier with the coating mill in charge of Jake Kuss. Technical control work is in charge of Ray Barton.

Kalamazoo Vegetable Parchment Co.

Still another phase of the paper industry is represented by one of the largest of Kalamazoo's paper manufacturers, the Kalamazoo Vegetable Parchment Company, organized in 1909 by Jacob Kindleberger who is one of the most widely known of the present day paper mill executives. Mr. Kindleberger came to Kalamazoo from West Carrollton, Ohio, intending to organize a company to make parchment and waxed paper. Work was started in an abandoned beet sugar factory on the Kalamazoo river in what has since become known as the village of Parchment. Starting from a very humble beginning the venture has been successful and the company has grown until it has a capital of $5,000,000.00 and employs over 1000 men and women.

The policy of the company has always been to keep equipment modern in every respect and their new No. 2 mill is sometimes spoken of as "The model mill of the world." The company operates four large paper machines with the necessary machines for parchmentizing, waxing and printing. Besides bonds and writing papers the K. V. P. Company has developed countless specialties which have done much to make the name of Kalamazoo famous since many of these specialties reach the ultimate consumer, the housewife, in the original package bearing the familiar KVP emblem. Examples of such products are shelf liner papers for home use, waxed papers, parch-

In The Paper Mills—This Is The "BOOK OF THE YEAR"

Mill managers and superintendents are scanning its pages. It contains for many of them, the secret of lowered operating costs. The costs recorded on its pages account for a large part of their production expense.

Among many mills operating under similar conditions, machine room heating and ventilating expenses will vary considerably. The difference is in the amount of waste and inefficiency of equipment that is permitted to exist. It sometimes amounts to the difference between profitable and unprofitable production.

If a properly designed and installed system could be depended upon to not only pay for itself but return additional savings from its operation—surely it would prove a good investment at this time.

Consult our engineers. They have helped hundreds of mills to profit by the elimination of waste. You can rely on them to tell you frankly whether or not the savings will justify purchase of equipment. Get in touch with our office nearest to you.

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PORTLAND, ORE.

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ment papers, school papers, etc. Other products include wax bread wrappers and parchment paper for food preserving. No small share of the success of this company is due to the activities of a well organized research department which is consistently developing new uses for KVP papers and even developing new papers.

Mr. Kindleberger is still president of the company but has as his assistant, Ralph Hayward, vice president and general manager. Mr. Hayward in spite of his many duties has found time to act as general chairman in charge of all plans for the fall meeting of TAPPI in Kalamazoo in September. The No. 1 Mill is superintended by George Rice and Abe Vanderberg is in charge of Mill No. 2. Chemical control work is supervised by Frank Libby who acts as assistant to the general manager.

Sutherland, Mac Sim Bar and Watervliet

Another up to date and progressive mill making more special lines of paper is the Sutherland Paper Company which also operates what is now known as the Standard Division, formerly the Standard Paper Company. These two mills make board including printed and wax cartons. The company has had a successful career and is headed by Lew Sutherland as president and general manager and Fred Sutherland as secretary, E. F. Whittington is chief chemist and has charge of the fall meeting program.

Those interested in board papers will find a very typical mill manufacturing this class of product in the Mac Sim Bar Paper Company, at Otsego, Mich. This mill was organized in 1905 and started operations in 1906, being organized by M. A. McClellan, George E. Bardeen and S. W. Simpson. The mill took its name from the three men instrumental in its organization, becoming known as the Mac Sim Bar Paper Company. The operation of the mill is under the supervision of C. F. Sisson who went there from the Western Board and Paper Company of Kalamazoo, which mill has since been closed.

While the above mills are located either in Kalamazoo or in what is commonly known as the Kalamazoo Valley, no description of the local paper industry would be complete without mention of the Watervliet Paper Company located at Watervliet, Mich., about forty miles west of Kalamazoo. The paper industry in Watervliet goes back to 1892 but the organization of the Watervliet Paper Company itself was not completed until 1910. They purchased buildings already erected, improved the property and have developed a very fine paper mill. W. S. Hodges was elected president when the company was organized. The revamped mill made book, lithograph, folder and map papers. In 1912 a coating mill was built and a second paper machine was added in 1928. The mill is now one of the most up to date and efficient mills in its class. The present officers include George K. Ferguson, president and general manager; C. B. Hays, vice president; A. B. Schied, treasurer and John Pyl, secretary. E. H. Gilman, another very well known paper maker is superintendent.

This article is by no means complete, nor does it do justice to the individual mills nor to the paper industry in the Kalamazoo Valley. However, we hope it will be of some interest to those who may be considering visiting Kalamazoo to attend the Convention which will be held here next month.

Hammermill Conference Aug. 26-28

The twentieth annual conference of the agents of the Hammermill Paper Company will be held at Erie, Pa., this year on August 26, 27 and 28.

New York Trade Jottings

The Steiner Paper Corporation, of 50 Franklin street, New York, has increased its capital stock from $25,000 to $100,000.

* * *

Standard Envelope Company has been incorporated under the laws of the State of New York, with a capital stock of $10,000. Regan & Barrett, of 120 Broadway, New York, are the attorneys.

* * *

Summerfeld Eney, Jr., of the Champion Coated Paper Company, with headquarters at 230 Park Avenue, New York, has returned to duty after a long stay in the South, where he went to recuperate from a throat affection.

* * *

Lenox Wall Paper Company, of 400 West 25th street, New York, has filed a petition in bankruptcy, listing liabilities of about $80,000, and book assets of about $45,000. Judge Mack appointed the Irving Trust Company as receivers.

* * *

The outing of the New York Association of Dealers in Paper Mills' Supplies, which took place on Sunday, August 15, proved a huge success. The event took place at Louis Leonardis' beautiful grounds in Highlands, N. J., and an ambitious program was run off without a hitch. The outing committee, consisting of chairman Fred H. Chase, Louis Gottleib, Tony Carlo and Louis Leonardis, were accorded a unanimous vote of thanks for arranging the affair.

* * *

Royal S. Kellogg, secretary of the News Print Service Bureau, with headquarters at 342 Madison Avenue, New York, has just returned from a two weeks cruise aboard his auxiliary ketch, *The Roon*. He was accompanied by his efficient first mate, Mrs. Kellogg, and a party of friends. During the trip *The Roon* cruised along Long Island Sound, Block Island, Buzzard's Bay and Cape Cod Bay, and altogether put in to twelve different harbors. Two days were spent at Provincetown, Mass., and another two days at Newport, R. I., while numerous other interesting places were visited. One and all voted the cruise a thoroughly eventful and enjoyable one.

Mr. Lansing Improves

WATERTOWN, N. Y., August 24, 1931.—The condition of Edward S. Lansing, vice president of the Bagley & Sewall Company, is reported to be showing great improvement and he is expected to be able to resume his business connections in the near future. Mr. Lansing was the victim of a recent automobile accident and for a time his condition was serious. All danger from infection in his broken leg is now said to be past and physicians look for his complete recovery.

Made Howard Agent

URBANA, Ohio, August 24, 1931.—The Union Paper and Twine Company of Cleveland, Ohio has recently become a Howard Bond Agent. This makes a dual agency in Cleveland, as the Cleveland Paper Company has handled the Howard Line for many years.

Mr. and Mrs. Ward R. Howard will start within the next few days on a motor trip through Canada to study the paper situation in that country.

Note the Blade Mounting »» »» »»

—IT'S DIFFERENT

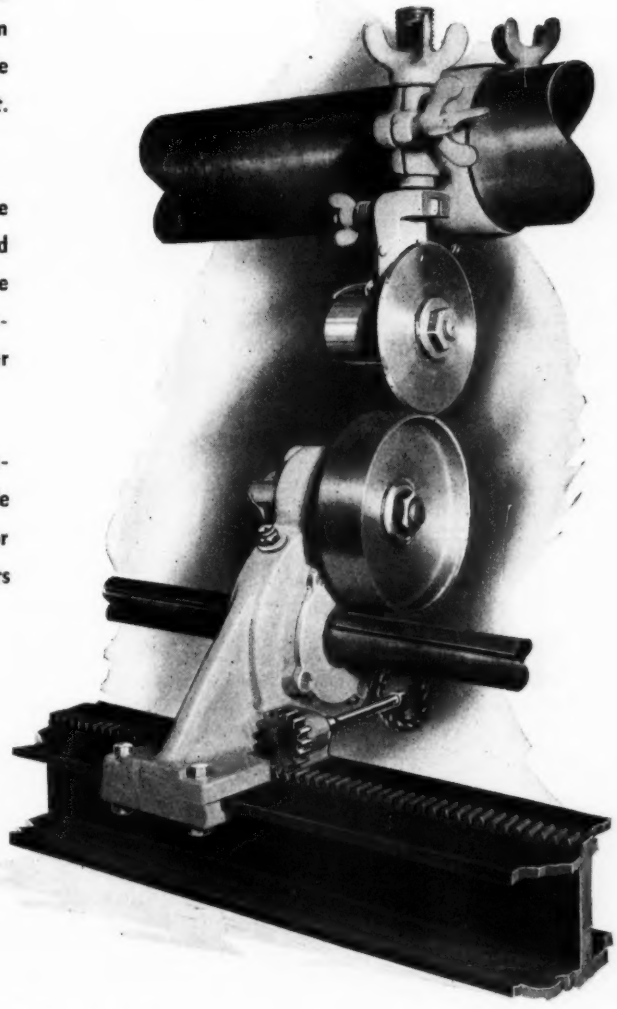
ACCESSIBLE for YOUR CONVENIENCE

Under the usual arrangement of mounting bottom blades directly on shaft, a dull blade is more easily observed than cured. It is necessary to dismount shaft, and possibly a couple of blades, to replace a dull or nicked blade midway of shaft. Hence the tendency to postpone regrinding bottom blades.

In "M & W" Ball Bearing Slitters, these causes of trouble are avoided. The bottom blades, instead of being mounted directly on shaft, are mounted above it and gear-driven at three times shaft speed. This permits using slow-running, vibrationless shaft. Both drive shaft (which is splined) and slitter spindles run in annular ball bearings.

This gives a true-running, almost frictionless and wearless condition with minimum need for lubrication. Any bottom blade can be replaced in a moment or so, without disturbing shaft or any other blade, merely by undoing end nut holding it on its shaft.

To complete the improvement, top blades also run in ball bearings. Thus the chance of frictional drag, and of wabble due to worn bearings, is eliminated. Any top blade is replaced, like any bottom blade, by removing one nut.



- SAVES CLAIMS FROM PRINTERS DUE TO DUST AND BAD EDGES.
- PREVENTS BLADE WABBLE THUS ELIMINATING SLITTER CRACKS.

Easy Blade Removal
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Paper Mill Machinery

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CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Chelsea, Mass.—The Russell Paper Can Company, recently organized by Harlow M. Russell and associates, has taken over the local plant of the Russell Box Company, Gerrish avenue, and will proceed with installation of equipment for the manufacture of paper cans and kindred paper containers. It is proposed to have the factory ready for service at an early date, with facilities for extensive production. Mr. Russell is president of the new organization.

Palmyra, Mich.—The Simplex Paper Corporation, Adrian, Mich., has work under way on a new addition to its branch plant at Palmyra, to be equipped primarily for the production of straw papers. The new unit is reported to cost close to $25,000, with equipment, and is expected to be ready for service at an early date. The Palmyra mill is working on a capacity schedule, giving employment to about 65 men on a day and night basis, including Sundays. The Adrian plant of the company, likewise, is running on a full capacity basis, with about 120 men on day and night shift. It is proposed to hold to present schedules for an indefinite period.

New York, N. Y.—The Jayhawk Manufacturing Company, recently organized by Pallister E. Feely, 47 Brevort Place, Brooklyn, N. Y., and associates, with capital of 350 shares of stock, no par value, plans operation of a plant at New York, for the production of paper boxes, cartons and other containers. Samson Merriam, address noted, is interested in the new organization.

Evansville, Ind.—The Keller-Crescent Paper Company, 216 Locust street, has completed plans for a new plant unit, to be one-story, 50 x 100 feet, reported to cost over $35,000, with equipment. General contract has been let to the M. J. Hoffman Construction Company, 20 N. W. Fourth street, Evansville, and superstructure will be placed under way at an early date.

Omaha, Neb.—The Carpenter Paper Company, 401 South Ninth street, has filed plans for extensions and improvements in storage and distributing plant at location noted. Estimated cost has not been announced. General contract has been let to Peter Kiewits Sons, Inc., Omaha National Bank Building, Omaha.

Tonawanda, N. Y.—The National Manufacturing Corporation, recently organized, will take over and succeed to the National Roofing Company, with local plant on Fillmore avenue, specializing in the manufacture of roofing and building papers and kindred products. The plant has been idle for a number of weeks and the new company plans to resume production at once. It is understood that improvements will be made in the plant. Clinton W. Brown is president of the new organization, and John J. Flanagan, vice-president and treasurer.

Kalamazoo, Mich.—The Kalamazoo Label Company, Kalamazoo, manufacturer of paper labels and kindred paper goods, has completed plans for the construction of a new plant unit, reported to cost close to $25,000, with equipment, and will proceed with superstructure at once. General building contract has been let to the Stewart-Kingscott Company, Kalamazoo. Billingham & Cobb, Kalamazoo, are architects.

New York, N. Y.—Kramer & Kurs, Inc., New York, recently organized by Max Kurs, 100 Broadway, and associates, with capital of $10,000, is planning operation of local plant for the manufacture of paper boxes and containers. It is understood that production will soon begin. B. Kramer, 491 East Ninety-fourth street, Brooklyn, will be an official of new company.

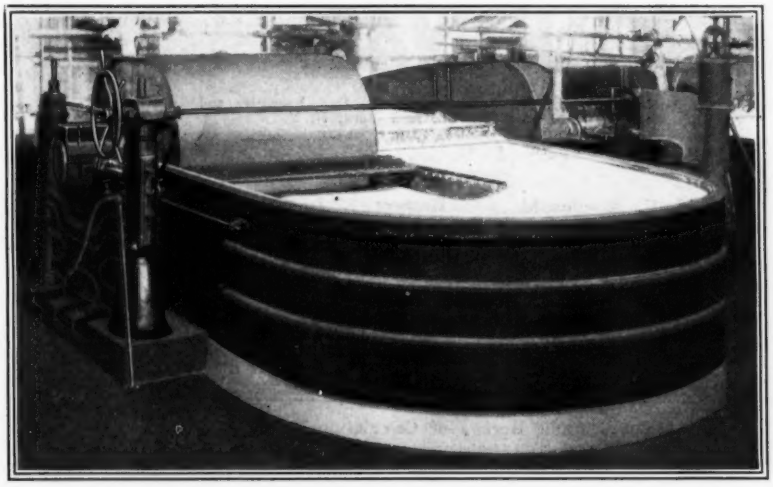
Allwood, N. J.—The American Colortype Company, 207 West 25th street, New York, affiliated with the Osborne Company, Summer avenue, Newark, N. J., manufacturer of paper specialties, calendars and kindred paper stocks, is said to have plans maturing for extensions and improvements in proposed new plant at Allwood, N. J., where a large mill was acquired several months ago. The improvement program is reported to cost close to $50,000. Considerable equipment will be installed, including machinery from other plants of the company to be removed to new location, where a large part of production will be concentrated in the future. The Ballinger Company, 100 East Forty-second street, New York, is architect and engineer.

Lowell, Mass.—Fibreforce, Inc., has been organized by Stephen F. Nea, 100 Rutherford avenue, Charleston, Mass., and associates, with capital of 980 shares of stock, no par value, to operate a local plant for the manufacture of paper board, cardboard, and kindred heavy paper goods. Mr. Nea will be treasurer of the new organization, while Daniel J. Crowley, Charleston, will be president.

Los Angeles, Cal.—The Crown-Willamette Paper Company, 343 Sansome street, San Francisco, Cal., will proceed with excavations for its proposed new branch plant at East Twelfth and Evergreen streets, Los Angeles, recently referred to in these columns. It is proposed to push the project to early completion. The new plant will be used as a paper converting mill and large capacity is planned. It will be one-story, 190 x 315 feet, reported to cost close to $300,000, with machinery. The Austin Company of California, Inc., 777 East Washington street, Los Angeles, is engineer and contractor in charge.

Saginaw, Mich.—Reid Brothers, Inc., Saginaw, operating a local paper storage and distributing plant, has arranged for a change in name to the Reid Paper Company. At the same time, reducing its capital from $100,000 to $50,000.

. . . . about Valley Beaters



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ANTI-TRUST LAWS INTERFERE WITH STABILIZATION OF INDUSTRY

The application to entire industries the world over of the principles of scientific management which have played such an important part in the growth of American industries during the last half century was proposed as a way out of the present world dilemma by Dr. H. S. Person, managing director of the Taylor Society, New York City, in an address before the World Social Economic Congress which began at Amsterdam, Holland on Monday of this week on the call of the International Industrial Relations Association.

"Logic compels us to consider the necessity of ultimate stabilization of world industry by a world-scale application of the principles of scientific management" declared Dr. Person, speaking before an audience of economists, industrialists, governmental officials and labor leaders from the principal nations of the world. "All the forces of national habits, prejudices, chauvinism and entrenched self-interest are arrayed against such an ultimate application of these principles. Yet boldness in thinking and in conduct ever have been the basis of progress."

Predicting that America would probably be the last country "to give effective response to this concept of international stabilization," Dr. Person said, "let us not forget that the American is flexible and adjusts himself to new requirements more readily than most people. Until recently there has been no need for the American to be internationally minded. In recent months, however, there has been startling evidence that industrial leadership in the United States has begun to think internationally."

Quoting recent utterances of Owen D. Young, chairman of the board of the General Electric Company, Thomas L. Chadbourne, attorney for American sugar interests, E. N. Hurley, president of the American Manufacturers Export Association, Paul M. Warburg, George E. Roberts, Albert H. Wiggin and other American bankers on the interdependence of American industry and that in other countries, Dr. Person said: "These leaders are representatives of the most strongly intrenched capitalistic industry in the world and they are faithful to it; they are not implying that capitalistic industry should be replaced by any other form of industrial society. But they have the vision to see and the boldness to declare the evils that result from the discrepancy between particularistic political economies and realistic industrial economics and to challenge industry to attack these evils. They have come to see that the international factors play an important part in the depression from which we are now suffering and that the problem must be attacked on an international plane at the same time it is attacked on a national plane.

"While there are few in the United States advocating immediate nationalization of industry" Dr. Person said, "many conservative leaders of thought recognize that the feeling of insecurity now affects so large a proportion of citizens that democratic processes of government may lead to remedial legislation which—if unplanned and piecemeal—may increase rather than reduce industrial confusion and lead eventually to an irresistible movement for nationalization. To avoid this highly probable outcome they are giving attention to better control of industry through some individualistic form of national planning."

Dr. Person foresaw serious difficulties in the way of national stabilization of industry in the United States, first because of legal obstacles and, secondly, because—with three exceptions—the United States has had no experience with stabilization of entire industries. Citing the exceptions, he said: "The railroad industry through government regularization has become more stable than any other; the steel industry, because of the influence of one great corporation among competitors limited in number by the costs of capital investment, perhaps ranks next in stability; the electric light and power industry through a pyramid of holding companies is becoming more stable."

Stabilization of whole industries in the United States has been impossible, Dr. Person declared "because of a philosophy of individualism and competition which dominates public opinion and is expressed in legislation. An outstanding characteristic of legislation affecting business during the past half century has been its aim, on the one hand, to avoid government ownership or control and, on the other hand, to prevent in private industry the formation of trusts, combinations and various types of agreement which would bring centralized control of an industry. That the members of an industry should be permitted to get together for the purpose of stabilizing it is a concept shocking to general opinion—and not unreasonably in the light of past experience. That stabilization through government control should be thought of at all is even more shocking to industrial opinion in particular."

The very things which the law forbids, Dr. Person

pointed out, are essential to stabilization of an industry: a budget for general administrative control of the whole industry conceived as one great enterprise; adjustment of consolidated sales to the consolidated market, or of consolidated production facilities to calculated consolidated demand; and the routing of operations to individual enterprises. Certain trends toward stabilization of industries in the United States were noted by Dr. Person, however, such as the steel institute; the appointment of "dictators," with the authority of entire industries, to promote agreements as to common practice; the device of the holding company which brings about concentrated ownership; and the activities of trade associations.

Dr. Person closed with the statement that "If our world were a wise world; if it could perceive that most of the urgent problems disturbing it reduce to the common denominator of disorganizing particularism; if it had the will to cast this aside and the courage to act promptly; then the year 1932 would be an *annus mirabilis* of simultaneous correlated conferences; a great international conference working out regularization of world industry; an industrial conference in each nation working out stabilization of national industry; national and international conferences of great industries, each creating for itself a reign of law; and in every industrial community cooperative efforts of individual enterprises to apply the stabilizing force of scientific management. These conferences would approach their tasks not with the spirit of political discussion and negotiation, but with that of creative reorganization. Through these a world adrift could eventually be brought to helm and guided into calmer seas of sound human relationships. In further drift there is danger of being shattered upon the rocks of blind industrial and political conflict."

Swedish Kraft in Better Demand

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 19, 1931.—Commercial Attache M. H. Lund, at Oslo, states that there has been very little change in prices during recent weeks on the Swedish paper market. Buyers seem to be reluctant to place new contracts in spite of the low prices prevailing at present, which would indicate that confidence in the general business improvement has not yet been established. It is expected, he says that the new production agreement will avoid any marked surplus and in that way keep the prices stabilized. The only item enjoying a somewhat better demand at present is kraft paper, on which prices have been firm for the last six to eight weeks, due to an increased interest on the part of British buyers. All other grades seem to be feeling the effect of the world depression.

Bamboo as Raw Paper Material

WASHINGTON, D. C., August 19, 1931.—The Indian Tariff Board is investigating the domestic paper industry with a view to ascertaining the need of a protective tariff according to a report from Trade Commissioner G. C. Howard at Calcutta. They are understood to be particularly interested in the possibilities of bamboo as a raw material in competition with wood pulp.

Boston Paper Trade Market More Active

BOSTON, Mass., August 24, 1931.—The paper market is holding its own, with a slight improvement in the regular lines and a normal demand for seasonal specialties. In some cases purchasing is restricted by absence of buyers on vacations. There has been a somewhat larger inquiry for fine paper during the week, although orders have not yet resulted in the substantial volume hoped for. Book papers, however, show an encouragingly increased demand with more than one house. The representative of one large company says there has been quite a change in the demand for book papers. Bonds, ledgers and writings have been in better call, particularly in the last two weeks. Box papers are in satisfactory demand, with more activity among carton manufacturers. The demand for wrapping paper is moderate, but seasonal. In some quarters, August, so far, has been better than July, and is expected to be an average month. Interest in textile papers continues, with increased operation in the cotton and woolen mills.

Box board is maintaining about the same volume of business, with values at the same levels. A little improvement is noted here and there and the outlook continues favorable, judging from reports from box manufacturers, some of whom are operating their plants to capacity. Of late there has been a considerable amount of orders for cardboard in the aggregate, normal at this season, with calendar and greeting card makers and others preparing their products. The weather has been particularly favorable for summer specialties, such as drinking cups, both flat and round, paper napkins and paper towels, used at shore resorts, parks, wayside stands and for picnic purposes.

Paper stock dealers report a dull market as a whole, although there is a good demand for old repacked kraft. The call for mixed news continues. Little or no business in the other grades is reported. Prices are at the same levels. Twine is not particularly active. In the cotton grades, prices of raw material have tended to act unfavorably on the condition of the market for the finished product.

Import Committee Does Good Work

Henry W. Stokes, first chairman of the Import Committee of the American Paper Industry and former president of the American Paper and Pulp Association, has commented most favorably on the work of the Import Committee in a letter addressed to the manager. His letter, which he has given permission to reproduce is in part as follows:

"I have enjoyed reading what you have been sending out and noting how much work there is still to be done, in spite of what has been accomplished during the past five or six years. Nothing heretofore done in the paper industry has been of so much value.

"I am sure you will have indefinite support as I cannot believe our paper manufacturers will be so short-sighted to contemplate killing, or even crippling a goose which has laid so many golden eggs for them.

"With the apparently increasing demand for some downward revision of our tariff rates, other manufacturers would be helped if they could realize it is not so much the rate of duty as the proper administration of the act which is the most important.

"The paper industry is fortunate in having had the vision to anticipate this situation and the preparation to meet the issue when it arose.

"With congratulations for what has been done and with best wishes for the future."

ANNOUNCING

DRY GUM ROSIN SIZE

by

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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

The Patent Application

The application for patent consists of the following parts:—

1. Petition to the Commissioner of Patents requesting the grant of a patent and usually designating a patent attorney who is to represent the inventor before the Patent Office during the prosecution of the case. The power of attorney may, however, be filed separately at any time after the application is filed.

2. Oath taken by the actual inventor to the effect that he believes himself to be the first and original inventor and that he has not abandoned or forfeited his right to a patent.

3. Specification describing the invention and how to make, construct, compound and use the same.

4. One or more claims, each defining the part, improvement or combination which the inventor regards as his invention or discovery.

5. Drawing illustrating the invention and showing all features covered by the claims, whenever the nature of the case admits of illustration.

6. Government filing fee. At present the Government filing fee is $25.00 if the application contains 20 or less claims; otherwise an additional $1.00 must be added for each claim over 20.

All the parts of the application need not be filed at the same time, but the application must be completed and prepared for examination within a period of six months.

The inventor should not, unless he has had extensive experience in the specialized practice of patent law, attempt to prepare his own specification and claims. For, as stated by the Supreme Court, "The specification and claims of a patent, particularly if the invention be at all complicated, constitute one of the most difficult legal instruments to draw with accuracy, and in view of the fact that valuable inventions are often placed in the hands of inexperienced persons to prepare such specifications and claims, it is no matter of surprise that the latter frequently fail to describe with requisite certainty the exact invention of the patentee, and err either in claiming that which the patentee had not in fact invented, or in omitting some element which was a valuable or essential part of his actual invention."

The specification must fulfil certain minimum requirements to support a valid patent. It must be in such full, clear, concise and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains to make, construct, compound and use the same. There must be no doubt of its meaning. If any feature essential to the successful working of the invention is withheld, even if unintentionally, the patent will be held void.

The inventor is not required to state all the advantages and functions of his invention nor all the uses to which it may be put. Neither does he have to set forth the scientific principles or theory underlying his invention or the causes which produce the desirable result. Correct understanding of the underlying principles will, however, often enable the inventor to cover in general terms many different devices in which they may be utilized.

If the inventor is doubtful as to what to include in the specifications, it is advisable to state exactly what was done to produce the new result, pointing out which steps or elements are considered dispensable or non-essential or may be varied. If the description is too full or prolix, it may be later restricted by appropriate amendment. However, if any essential part of the invention is omitted or stated vaguely, even if unintentionally, correction can only be made by means of a new application.

The claims define the scope of the patentee's monopoly. It is, therefore, very important that they should be drawn with great care so as to clearly indicate in a few apt words exactly what the inventor believes he has invented in view of the prior art.

If the claims are so broad in their terms as to omit elements essential to the operation of the device or to include within their scope old devices, they will be rejected by the Patent Office or held invalid by the Courts when sued upon. On the other hand, if they are too narrow or restricted, competitors may easily avoid the patent by omitting or varying some non-essential element. It is usual, therefore, to include both broad and narrow claims in the application—broad claims omitting all dispensable or non-essential elements, and narrow claims to guard against the contingency that the broad claims may be held invalid.

Before signing the application, the inventor should read it carefully and compare it with his original description, sketches and models in order to assure himself that the invention is fully and clearly described and claimed. This precaution should be taken in all cases without exception, whether or not the application has been drawn up by a patent attorney.

NOTE: This is the tenth of a series of bulletins issued by the patents committee of the Technical Association of the Pulp and Paper Industry. All the bulletins of this series have and will appear in this publication.

Hercules Chemists End Research in Germany

[FROM OUR REGULAR CORRESPONDENT]

WILMINGTON, Del., August 24, 1931.—Three Hercules Powder Company research chemists have returned from Germany to the company's headquarters at Wilmington within the past few weeks. They are Dr. E. J. Lorand, Dr. H. M. Spurlin, and Dr. Kyle Ward, Jr.

For the past two years, the Hercules men have been studying cellulose problems in Berlin. Dr. Lorand and Dr. Ward have been at the University of Berlin working with Prof. Hans Pringsheim, and Dr. Spurlin has been at Kaiser Wilhelm Institute studying with Prof. Herzog, both professors being well-known cellulose authorities.

Vocational Education and Unemployment*

By J. C. Wright [1]

Something seems to be wrong. The sentry on duty in our shops, factories, farms, and commerical institutions can "call out the hour" but he can not announce that "All is well."

Labor declares that more than five million are out of work. The 1930 Census reported over 2,500,000 definitely classified as unemployed, with large number additional not at work for one reason or another on the day of the Census enumeration. April 18, 1930, and at the present moment the Census Bureau is tabulating results from a more recent count of the unemployed in twenty of our larger cities.

My official duties take me to New York City frequently. Recently I stood at 43d and Broadway and observed a bread line of hundreds of people stand for hours in line during the cold evening in order to receive two sandwiches, two doughnuts and a cup of coffee to satisfy their hunger. Other bread lines are formed in this city, and in other cities, as well as in many of the rural districts. Congress is called upon to appropriate vast sums of money for public buildings to provide employment, and other vast sums of money are demanded for immediate relief to satisfy hunger and need for clothing. The daily newspapers are full of accounts of suffering and want, due to a lack of work, to low prices resulting from over production of certain crops, and throughout extended areas of our country due at the same time to under production of these same and of other crops, or to total crop failure. Manufacturing establishments are closed down because the purchasing power of the people has been reduced which necessarily has meant wholesale reduction in the demand for the products of industry.

Groups of organized social workers, labor representatives, and others interested in human welfare, are being called together to consider the causes of our present unsettled condition. In other countries similar conditions prevail. England has been meting out a dole to its unemployed since the end of the World War.

Something must be wrong, or the American Red Cross would not be called upon to open up its resources to relieve the hunger and want of many families in the drought stricken regions of Arkansas and Kentucky. Something must be wrong when large numbers of those who served their country during the World War urge the Congress to appropriate more than three billion dollars for the purpose of paying at this time the sums awarded to them as adjustment compensation, a payment which many feel would make conditions worse rather than better.

I doubt if there are in my audience to-day many who will disagree with me in saying that the most pressing economic problem before the country is that of unemployment. The effects of a drought are soon forgotten. The effects of over production should not result in hunger and want, but the man without a job, without an opportunity to earn the food, clothing, and shelter necessary to support himself and his family free from want, constitutes a problem which every one of us should seriously consider in order that not only the immediate needs of our people may be met, but also that preventive measures may be undertaken so as to avoid a recurrence of present conditions in the future.

Causes of Unemployment

While there have been many suggestions and discussions as to the causes of unemployment, it seems to be very generally agreed that the present situation to a very considerable extent may be attributed to two causes:

1. Those permanent lay-offs due to technological changes in industry.
2. More or less temporary lay-offs due to business depression, largely resulting from the panic of 1929-30.

By technological unemployment we mean the permanent lay-offs resulting from changes in operations and processes, due to time studies, improved methods, or the introduction of automatic machinery, displacing individual workers. Unemployment of this character results from any cause whereby an individual has lost his job through those innumerable changes in working conditions which we are continually making in our zealous attempts to render labor efficient in wage earning or income producing occupations. Very commonly those changes permanently deprive the worker of any market for the only skill and knowledge he possesses.

Relation of Vocational Education to Unemployment

Vocational education can not become a panacea for cyclical recurrence of business depression, nor can it be expected to solve all of the problem of unemployment. On the other hand, we believe that the problems of unemployment, in these periods of depression, as well as in normal times, will never be solved without an adequate program of vocational education.

Vocational education can not prevent business depressions resulting from drought or from unbalanced production, nor can it prevent panics resulting from stock market crashes bringing in their train devastating bank failures.

On the other hand, since the function of vocational education is to assist an individual to acquire a salable knowledge and skill, it is evident that it can be used as an agency of readjustment for the retraining of individuals whose earning powers have suddenly been destroyed by technological changes in industry.

The problem is essentially no different from the problem of vocational education in any other case where a potential worker needs to be trained so that he can get a job, keep a job, or get a better job. If Bill Jones has been employed as a hand cigar maker and through the introduction of cigar making machines has not only lost his job but has found that there is no longer any opportunity anywhere for employment as a hand cigar maker, he is just as really handicapped, so far as getting a job is concerned, as is any untrained worker. If through vocational training he is taught to do something that somebody wants done, in the way somebody wants it done, and will pay for, his earning power will be restored in a job which insures him an opportunity for employment, and vocational education can be said to have functioned as it should function in relieving unemployment.

In every field of vocational training there are what may be called efficiency levels of employment, these levels rising in proportion as the amount of knowledge and skill required increases. The acquisition of such knowledge and skill takes time. Consequently the amount of time provided for training in any given case must be determined by the amount of time required to train an individual to meet the given employment level. Furthermore, unless an individual is trained to a point where he can meet at least the minimum employment level of the occupation, the whole value of the training is lost. He either can not get a job at all, or if he gets one he can not hold it down. It follows that if vocational education is to be carried on successfully the working conditions must be such that the time required to bring the individual up to at least

* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 17-19, 1931.
Contribution of the Education Committee.
[1] Director, Federal Board of Vocational Education, Washington, D. C.

the lowest level of employment, will be provided. If it takes six months to train a girl as a high power machine operator, obviously it will be absurd to provide a training course of only three weeks. After only three weeks of training the girl would still be unable to secure employment in the garment industry. Her time would have been wasted, public funds would have been wasted, and the whole training program would very properly be discredited.

Those of us who are responsible for vocational education believe that a vocational program is not functioning unless its pupils secure employment, to a reasonable degree, in the occupations for which they have been trained.

For these reasons, we can not hope to utilize vocational education effectively to avoid unemployment unless opportunity is given for training before actual unemployment begins, and further unless the training can be given for a job that offers a reasonable assurance of employment.

Under ordinary school conditions it is generally assumed that a citizen, or a child of any citizen, has the right to elect any sort of work which he wants to do, and too frequently the school assumes no responsibility in assisting him in getting a job in the field for which he has been trained. This principle may be entirely proper in offering and pursuing courses in general education, but it is obvious that it would result in failure if applied in the field of retraining for the purpose of reducing unemployment. In other words, the displaced worker should not be trained for jobs that do not exist.

Since those unemployed by reason of technological changes resulting in permanent lay-offs may be supposed to be in the position of the boy or girl who has not yet entered employment, it will be necessary for them to re-select an occupation for which they wish to be trained. This need calls for guidance and oftentimes occupational adjustment. In fact, the program of vocational rehabilitation of disabled civilians has demonstrated that adults are able to profit more immedately by vocational guidance than are the youth who have not yet gone to work. In order to discharge this function efficiently, efficient guidance and placement agencies must be available. These agencies should know or find out what opportunities exist or can be created for new employment. They should know something about the character of the training needed and whether the training can best be given on the job or in the school. They should keep informed regarding proposed displacement of labor incidental to contemplated technological changes in industry, and they should maintain contact with those who have been trained after placement in employment, so as to correct any mistakes which may have been made, and provide any needed supplementary training.

In the field of vocational education several types of schools have been developed for the convenience of pupils and the industry which the school expects to serve. Young people who have not yet gone to work may attend all-day schools. Young people who have gone to work may come back to part-time schools carried on during the working day. Adults may attend evening schools. In utilizing vocational education to relieve unemployment, any of these types may be made available at the convenience of the worker and of the industry. If the worker is not already employed, he should concentrate his attention during the day on the business of being trained for a new job. If the worker and the industry have had the foresight to anticipate the probability of a technological change in the industry which will result in permanent lay-offs, there is no reason why the worker should not anticipate his misfortune and prepare himself in advance for a new job through attendance at a part-time or evening school.

Owing to certain technical provisions of the National Vocational Education Act, workers who attend evening schools are limited to those for whom the instruction provided is supplemental to their daily employment. Where, however, the new job for which the worker is to be trained is in the same general occupational field, it would seem that even this difficulty might be overcome.

Cases Illustrating How Vocational Education Tends to Reduce Unemployment

A number of cases could be cited where vocational education has tended to relieve unemployment. Most of these cases illustrate the great need for closer co-operation between what I choose to call the trinity of vocational education. This trinity consists of the employer, the worker, and the public school. The business of the public school is to give a balanced program of education, including general and vocational. However, the public schools are not always in possession of the necessary information which will enable them to meet the needs of the employer and of the worker. Unless the school is kept abreast of proposed changes which may result in technological unemployment, unless it is kept informed of new jobs for which workers need to be trained, and unless both the employer and the worker cooperate with the public school, they will not be able to do very much toward helping out in unemployment.

In some instances industry can carry its own vocational education program to a better advantage. In other instances the workers' organizations have gone ahead on their own initiative, and in many places industry has asked the advice and help of the State or of the local schools in carrying out a joint program. The following cases will serve to illustrate some of the programs which have been operated during the present period of depression:

Case 1. Where the Workers Help Themselves.—Not long ago the business agent of the local union of truck drivers in New York City was informed by the president of a large coal company that within six months the company proposed to change from horse-driven trucks to motor driven trucks. With this information in hand the business agent presented the problem to the members of the union at their next meeting. No doubt there were some in the organization who felt called upon to oppose the change, as has been done many times in the past. Others recognized that the wheels of progress can not be blocked, and someone proposed a happy solution. As a result of his proposal the union purchased a three-ton Mack truck and employed a competent instructor to teach the members of the union how to drive motor driven trucks; and how to make emergency road repairs. This instruction was given to the men during their leisure time in the evenings, and before the six months had elapsed every one of these drivers had been able to secure his driver's license.

Six months later, when the president of the company expressed regret that it would be necessary to let off the drivers of horse driven trucks and employ licensed operators of motor driven trucks, the business agent informed him that every one of the men now in his employ was a competent and licensed driver of motor driven trucks. He also called the president's attention to the fact that these men not only were competent and licensed operators of motor driven trucks, but that they also knew the company's business, they knew the company's customers, and they had been found through many years of experience to be loyal to the company's interests—assets which the new men, the president felt it necessary to employ, could not possibly possess. This information was all that was necessary to enable these men to retain their jobs.

Case 2. Training Programs Operated by Employers.—A few weeks ago I visited the Hood Rubber Company at Watertown, Mass. This company is now a part of the Goodrich Rubber Company. I found that the company had organized its own training department, that the training department was not only responsible for the training of new employees, but also for the retraining of those employees whose jobs were dis-

continued by reason of the introduction of new machines, processes, or methods. The training department was kept advised of proposed changes and therefore was in a position to transfer the employees affected by these changes to other departments, and to train them in the new skills, operations, and technical information required by these jobs. On the occasion of my visit to this plant I was accompanied by two representatives of the State Board for Vocational Education, which had been requested to assist the training department in the training of teachers.

CASE 3. WHERE THE STATE SERVES AN INDUSTRY.—It is reported that the Lackawanna Railroad Company in the State of New Jersey recently requested the assistance of the State Board for Vocational Education in a program of training for locomotive engineers. These engineers were experienced in the operation of steam locomotives, but under the demands of progress the Lackawanna Railroad was being electrified and it would soon become necessary to have competent engineers for electric locomotives. The idea of the railroad company was to give its locomotive engineers and firemen an opportunity to become competent in the operation of electric locomotives. The State Board for Vocational Education responded to the request and assigned a competent instructor to this training program. My information indicates that the program has been carried through satisfactorily.

CASE 4. SPECIAL INTENSIVE COURSES OPERATED BY PUBLIC SCHOOLS.—I am informed by the State Supervisor of Trade and Industrial Education for the State of Michigan that when countless numbers of machine operators were released and turned out of employment by the manufacturers of automobiles, during the depression of 1929-30, thousands of these unemployed came to the evening schools, and to some extent to the day schools, for vocational training. A great majority of these workers had been taken into the automobile plants with little or no previous training and under the direction of an instructor foreman been taught to perform one or two very simple operations in the manufacture and assembly of automobiles. When it became necessary to reduce the force under the market conditions, quite naturally the men and women who possessed little or no skill were the first to be let out. As this fact dawned upon many of these workers, they realized that as insurance against unemployment it would be worth their while to go to school and equip themselves for doing more than one simple operation.

During all this period of depression I am informed that there has been a great scarcity of tool and die makers in Ohio, Michigan, and other industrial States, and that there is also a great need for competent machinists. The weakness of the situation which I have just described lies in the fact that it requires several years to become a highly skilled worker in the machinist trade, and that the public schools in Detroit and other cities found it very difficult to adjust their programs to meet emergency demands in such overwhelming numbers.

CASE 5. THE OPPORTUNITY SCHOOL.—A number of cities now maintain what may be called "an opportunity school." The oldest and perhaps best organized is that located in Denver, Colo., and it has grown up under the leadership of Miss Emily Griffith. Some 7,000 or 8,000 students attend this school each year and few indeed have come to its doors with a specific need to help them get a job, keep their job, or get a better job, but were met with a ready response on the part of the school. A man or woman out of employment in the City of Denver can go to this school and be given short intensive instruction under a competent instructor for some new occupation.

The vocational school does not possess a magic wand which can be made a panacea for unemployment. In fact, it can do very little of itself alone. It can not create new jobs; it does not know the employment opportunities except as this information is made available by employers; it does not know the requirements of these jobs and the training necessary in order that the worker may meet the job demands. Oftentimes it does not possess the equipment necessary to give the training. To supply this information and assistance the schools need the cooperation of both employers and workers. A one-legged or two-legged stool represents an unbalanced support, but a three-legged stool will stand alone and support the load placed upon it.

And so, in closing, I am bringing to your attention once again what I choose to call the trinity of vocational education. This trinity consists of the school, the employer, and the worker. Properly organized and working together, these three forces can make possible the complete functioning of the vocational school in serving the needs of industry to the extent that it is possible for these needs to be met. Without full cooperation very little can be done and much time, effort, and money will be wasted.

"It is a remarkable fact and yet not so remarkable after all, that of 11,000 men unemployed who were questioned in New York City, three out of four were unskilled laborers, and less than ten per cent were married," said the Dover, N. H. Democrat, in a recent editorial. "Therefore, if you want to get ready for hard times that may come again some day, learn a trade and get married."

Hydration and Freeness*

By F. L. Simons [1]

"Hydration" and "freeness" are two terms that enjoy rather indiscriminate use in the paper industry. They have been the subject of a great many arguments, the cause of a great deal of misunderstanding, and an unending source of confusion to the mill man who does not have the time to plough through all the technical pros and cons and thrash the matter out to his own satisfaction. In spite of a considerable literature on the subject, no one seems to have taken the trouble to define "freeness" and particularly "hydration" in the simplest possible terms and more nearly from the mill man's point of view. In the following rambling discussion it is proposed to review some of the fundamental conceptions underlying these two terms from a purely deductive standpoint, without recourse to any very alarming array of chemical and physical data.

"Hydration"

In the field of pure chemistry, "hydration" is used most often to designate the very definite number of molecules of water taken up by a salt when it crystallizes from solution. $Na_2SO_4 . 7H_2O$, (sodium sulphate); $FeCl_3 . 6H_2O$, (ferric chloride); and $Al_2(SO_4)_3 . 18H_2O$, (aluminum sulphate) are formulae familiar to every freshman, and the fact is stressed in each case that the amount of water of hydration is absolutely definite. There is a fixed and unalterable ratio between water and salt. If any of these hydrated salts are dried out at constant temperature, it will be found that their vapor pressure is constant until the water is entirely removed. That is, if a crystal of $CuSO_4H_2O$ (copper sulfate), is placed in an air tight container under a vacuum, water evaporates from the crystal until the pressure inside the container reaches 4.5 millimeters of mercury. If the container is then

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[1] Member TAPPI, director of research, Skinner & Sherman, Inc., Boston, Mass.

attached to a vacuum pump and this water vapor is slowly pumped off, the pressure remains constant, at 4.5 millimeters until all the water has been removed, when it suddenly drops to as near zero as the efficiency of the pump allows.

With cellulose in the so-called hydrated form, we have no evidence of definite relationship between water and solid as the vapor pressure drops off in a smooth curve under like conditions, as has been recently shown by our Canadian friends[2] and others before them. This, of course, is prima facie evidence that we do not have "hydration" of cellulose in the sense that definite compounds are formed, showing definite ratios of water to cellulose, but on the other hand very few workers have ever been sufficiently daring or foolhardy (whichever you like) to support such a theory.

The term "hydration" is also used in another sense in the strictly chemical field where the various properties of ions are considered. Electrolytes, such as lithium chloride, potassium nitrate, etc., do not obey the ordinary laws of electrical conductance, osmotic pressure, etc., when strong solutions are considered, and the most convenient explanation of the discrepancy is that the ions,—the actual positive and negative conducting units of any salt in solution,—surround themselves with a loosely bound "atmosphere" of water. The amount of water thus bound is continuously variable with changes in temperature and other conditions, and exhibits none of those characteristics of absolute definiteness shown by true crystalline hydrates. Nevertheless we speak of this loosely bound indefinite water envelope as water of hydration.

The work of Williams[1] on the solubility of cellulose in salt solutions is more or less in harmony with these ideas. Strong solutions of zinc chloride, calcium thiocyanate, etc. have the power of gelatinizing (or "hydrating") cellulose, and on prolonged treatment, of dissolving it. Solutions that have this power are of the type whose ions or molecules or both carry water of hydration of the loose envelope type. The degree of firmness with which this water is bound to the ions (or the salt as a whole) may be expressed in terms of the viscosity, boiling point, and heat of dilution of the solution, and Williams has found that these three properties must fall within certain limits for the salt solution to be a cellulose solvent. Under appropriate conditions, as by heating, this bound water transfers itself to the cellulose, which progressively swells, gelatinizes, and finally dissolves. Williams' theory of this transfer of loosely bound water is quite plausible and has considerable experimental support.

The work of McBain and of Donnan on soap solutions and other colloidal materials more or less agrees with the foregoing ideas of a loosely bound indefinite envelope of water, although our present picture of soap solutions is characterized not so much by a water envelope as by a more or less homogeneous complex or "micelle" of soap, soap ions and water.

There are other cases which also point to the possibility that ions, salts, and particularly colloidal matter carry with them in solution an "atmosphere" or envelope of water which is not united to the nucleus by the usual mathematically definite chemical reaction forces but may be held in surface adsorption films, by network structures of complex molecules, by electrical forces, or by combinations of these and other forces. Campbell (loc. cit.) has given us a picture of hydration, or rather what he says is not hydration, based on some ideas of the micelle; but his explanations while acceptable in general, are too involved and too much concerned with mechanisms to be of great interest to the mill man. The exact mechanism by which such water of hydration is held is not included in the subject of the present discussion, as it involves a field of investigation very properly limited to academic and government laboratories.

We may take a very homely example to illustrate these ideas on water envelopes. In making emulsions of water and "red oil" or oleic acid, it is customary to add a small amount of alkali such as caustic soda to a 50-50 mixture of water and oil. If this mixture is violently agitated or passed through a colloid mill, an emulsion results which appears homogeneous and which for purposes of this example we will call a solution. This solution consists of freely floating microscopic particles of oil (oleic acid) surrounded by a film of sodium oleate. The sodium oleate soap is of course produced by the interaction of the caustic soda with part of the oleic acid.

The point to be noted is that the soap is not dry soap, but a water solution, probably dilute on the outside of the film and more concentrated inside next to the oleic acid droplet. If agitation or mechanical processing is carried to an extreme, the little individual oil droplets will be so small that they will be mostly soap film. As the soap film carries considerable water, this means that more of the free water will be tied up in films in the semi-solid state. Experience bears this conclusion out, as too much mechanical processing, producing too fine a droplet size, results in an emulsion that is a solid gel.

The essential points of difference between cellulose and these other colloidal materials and the simple salts first discussed is that cellulose as used in paper making is not a homogeneous material, and the "hydration" carried out in the paper mill is not complete as in some of these other cases. These two points seem to have been more or less overlooked, or insufficiently stressed in trying to describe "hydration."

Much more may be said in regard to the few elementary points already discussed, and a wealth of miscellaneous data quoted in support of theories of how hydration takes place. In fact enough has been written on the subject to make the foregoing look like elementary repetition, but nevertheless it is all a mystery to the mill man, and the matters of terminology and definition are all too confusing. In the interests of mill practice, which is paper technology in words of two syllables, it would seem justifiable to offer a few working definitions unencumbered by x-ray diffraction patterns and similar impedimenta whose usefulness is more freely admitted in the academic laboratory.

"Gelatinization" is perhaps a better term to describe the progressive "sliming" or "slowing" of paper pulp that is under discussion. It is too much of a mouthful, however, and as "hydration" has been in common use for some time, we might as well stick to it.

We must recognize, as Schorger has already pointed out, that "hydration" of cellulose in general and paper pulp in particular may be accomplished in any one of three ways:—(1) mechanical beating in the presence of water; (2) action of solutions of acids, bases, and salts; (3) regeneration from esters as in rayon manufacture. The possible relation between the first and second methods has been pointed out already; the third method is similarly related but need not concern us at present.

Remembering the two points that paper pulp cellulose is not homogeneous necessarily, and that paper mill hydration is not complete, we may offer the following definition: *"Hydration, as applied to paper pulp, designates that condition of the fibers wherein their outer layers are converted to a varying extent into a gelatinized, semi-plastic condition by the addition of water in some loosely bound form such as has been indicated in the foregoing discussion.* In the extreme case, individual fibers may show a gradual change in composition from 90 per cent cellulose and 10 per cent water in the center to nearly pure water on the outside, in something of the same manner as illustrated in the oleic acid emulsion discussed above.

This sort of definition is rough, perhaps, and savors more of the mill than the laboratory, but that should add to its value rather than otherwise. At least, if we could all use some such uniform basis for further discussion, it would be an improvement over the varying shades of opinion now prevailing, and if in addition a more or less working definition can be used which will help us to picture the formation of the outer gelatinous adhesive layers on pulp fibers during beating, so much the better. Any very general and simple explanation of the fact that the gelatinous coating around each fiber,—part cellulose and part water,—is the source of most

[1] Campbell; Research Notes (Vol. 2—1929) Forest Prod. Lab. of Canada.
[2] H. E. Williams: J. Soc. Chem. Ind., 40 (1921): 221T.

of the bonding between fibers in a sheet of paper is of value in regular mill work, especially if it also ties in with the facts that beating in non-aqueous media gives paper of virtually no strength, while gelatinizing methods more drastic than beating, such as by parchmentizing processes, gives extremely strong fiber-to-fiber bonding.

"Freeness"

"Freeness" or slowness as it is sometimes called has been another of these descriptive terms in paper technology which possessed as many definitions as there were people to make them. However, freeness has pretty well graduated out of the indefinite class in recent years due to the development of freeness testers, and we are more or less content at present to define freeness as the arbitrary figure obtained with one or the other of the commonly used testers. This, of course, begs the question as to what freeness really is, but on the other hand, the mill man is not interested in this phase of the matter except insofar as it is necessary to safeguard methods of freeness measurement.

Freeness, as generally thought of, describes that elusive change in feel and general character of stock during beating, and must, of course, be the resultant of several different factors. There is first the change in hydration which we have already discussed. There is secondly a shortening of the fibers, and in the case of rag and some other stocks we ought to include with this effect the splitting out of fibrillae. Third, we have the accumulation of more or less fiber debris of various kinds. The distribution of these three effects can probably be estimated from a knowledge of the detailed mill methods employed, but the actual measurement of any one of the three separately and distinctly from the others is another matter. The Schopper-Riegel, and Green testers obviously measure a combination of the three, and so far have proven the only practical instruments for such tests.

There have been attempts to utilize other principles than that of screen-drainage, of course, such as falling ball or venturi tube viscosity, skin friction resistance on high speed revolving cylinders, driving resistance of propeller or paddle blades, change in dielectric constant, etc. Such attempts have failed usually because the apparatus was too expensive or cumbersome, or because the method did not measure "freeness" with its component factors in the same relationship that they stand when the stock reaches the actual paper making stage, which after all is quite necessary if we are going to use a method of test and a definition of freeness which involve all the factors apparent in beating changes. The Skark tester does show the presence of long or short fibers to some extent, and the measurement of dielectric or specific inductive capacity also shows hydration to a certain extent, but the Skark instrument has too many faults, and the dielectric measurement method needs a lot of development, and is likely to remain a research tool.

There is therefore little question of the value of a freeness test which is based on something closely related to paper machine operation,—wire drainage, or sedimentation.—and at least for the time being we can let our definition of freeness go as being the complex variable measured by such instruments.

These rather rambling comments are already too lengthy to include a further discussion of the drainage or sedimentation type of freeness testers as of themselves, and the reader is referred to a contemporary contribution of F. C. Clark on the subject.

The Trend Of Steam Pressure And Temperature In Paper Industry *

By J. Van Brunt [1]

Any paper on the trend or predicted future progress of any industry is of necessity based on statistics of the past and the practice of the present time from which a conclusion can be drawn and a reasonably accurate prediction made.

Any prediction of probable trend is made on the assumption that no radical change in process or method will be devised or discovered which will completely or partly revolutionize existing methods.

It would be rather presumptuous for me to attempt to tell you paper manufacturers what the trend of steam pressure and temperature will be in your industry. A presentation of statistics of existing paper plants would show quite clearly I think that the paper manufacturing industry has led other industries in the use of high pressure steam.

Such information that I have been able to gather indicates that of all plants in this country operating at 300 pounds or over, more than one-third are paper plants.

Of about fifty high pressure steam plants serving paper mills, about ten per cent generate at 650 pounds, sixteen and two-thirds per cent at 450 pounds, twenty-one and one-half per cent at 400 pounds, twelve per cent at 385 pounds, sixteen and two-thirds per cent at 300 pounds and the balance at miscellaneous pressures between these limits.

Inquiries recently received by us indicate that the newer plants or additions will probably be designed for 500 to 650 pounds pressure.

The amount of heat and power required in any mill will depend principally on the kind of paper and the location of the plant. Each plant has its own problem and the correct selection of equipment for that plant is not necessarily correct for any other plant.

For plants having no hydro-electric power, the problem of the selection of pressure for the steam plant may be simply stated as follows. Select such a steam pressure and temperature that the total amount of steam used in process for cooking, drying and heating will generate in a back pressure or bleeder turbine between the initial pressure and the pressure required for process and heating, the entire power required by the mill. If this can be done, the plant is perfectly balanced, no heat is wasted to the condenser and no power generated beyond mill requirements. If the power required is more than can be generated by the process, steam condensing turbines may be used and the steam for process bled at one or more stages of the turbine or a straight condensing turbine of sufficient capacity may be used in addition to the back pressure units.

As above stated, each mill has its own peculiar problem and the correct selection of pressure and equipment can only be made after a thorough analysis by a steam engineer thoroughly familiar with the requirements of that mill.

Boiler and Furnace Selection

When this analysis is completed and the proper pressure and temperature determined, there remains the selection of the type of boiler and furnace and firing equipment.

The factors leading to the selection of these are many and varied and only by careful analysis may the most suitable combination be chosen.

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Contribution of the Heat and Power Committee.

[1] Vice president, Combustion Engineering Corp., New York, N. Y.

Let us assume that it has been found that a pressure of 600 pounds gauge and 700 deg. F., will fulfill the heat balance requirements, what kind or type of boiler shall be used, how many units, how fired, at what rate of evaporation shall the boilers be operated, shall economizers or air heaters or both be used.

A complete steam generating unit is made up of a number of parts each charged with the performance of a definite task. The number of these parts will vary from the simplest combination of boiler, grate, furnace, stack and feed pump to one of boiler, furnace, water cooled walls enclosing furnace, superheater, reheater, economizer, air preheater, induced draft fans forced draft fans, pulverizing mill collector, mill exhauster, coal feeders, primary air fan, burners and feed pump.

The modern high capacity, high efficiency steam generating unit no longer even remotely resembles the units of twenty years ago either in appearance or performance. In its evolution, the rate of evaporation per square foot of surface has doubled, tripled and quadrupled. Economizers and air heaters have been added and highly efficient fuel burning equipment provided so that where some years ago the boiler was the item of greatest cost, now it represents but a minor part of the total.

To return to our problem of the selection of boilers, in addition to steam pressure and temperature, the engineer's analysis will provide additional essential data such as maximum steam and kilowatt demand, duration of peak, load factor, amount of condensate returned to boiler, make-up water, analysis of water, all of which when properly weighted will aid in our problem.

To convert the heat in coal into steam and power, the coal must be burned. Here is our base from which we must build up our analysis if we are to reach a satisfactory conclusion. In other words, selection of a method and equipment for burning the coal available is more important than and should be made prior to the choice of boilers. Therefore, the study of the coals available must be thorough. It is generally understood that some coals may be satisfactorily burned on stokers of a certain type and certain other coals on stokers of another type. It is not so generally realized that no stoker will handle with equal facility many different kinds of coal.

Practically all bituminous coals may be burned equally well in pulverized form but not at the same rates of combustion in any given furnace.

If it is found that several kinds of coal are available, consideration must be given to the quality of each, the probable amount of each that will be used and the burning characteristics of each on stokers or in pulverized form. If all coal available is of such quality that it can be burned on stokers, then stokers should receive careful consideration. On the other hand, if quality varies and ash melting point also varies and is low, burning in pulverized form is preferable.

The cost of coal will determine whether a low cost moderate efficiency or a high cost high efficiency plant is most economical.

Having decided that the coal available may be burned to best advantage in pulverized form, the type of furnace and range of combustion rates should be fixed. In the burning of pulverized coal in wholly or partly water cooled furnaces, the relations of combustion rate, volume of furnace area of water cooled walls, combustion air temperature, melting temperature of ash, location of boiler tubes in relation to burners and spacing of boiler tubes, to boiler availability or hours of continuous operation are little understood or appreciated by the average purchaser of boiler plant equipment. High combustion rates of low or medium fusion temperature ash coal results in rapid destruction of furnace walls. Low combustion rates with good coal are permissible in refractory furnaces.

Average coal having an ash fusion temperature of 2100 to 2500 deg. F. should be burned in water cooled furnaces and the combustion rate should be so proportioned that the temperature of gas entering the first bank of boiler tubes will be lower than the ash fusion temperature for continuous operation. For short swings the temperature may be higher, depending on the duration of the swings.

For example, while it may be possible to operate at 25,000 B. t. u. per cubic foot one hour and 2300 for three hours, any attempt to go beyond 18,000 B. t. u. for continuous operation twenty-four hours a day for thirty days would result in fouling of the gas passes of the boiler and building up of clinker in the bottom of the furnace.

A few years ago, advocates of high heat release furnaces predicted rates of 50,000 to 100,000 B. t. u. per cubic foot. True, coal may be nearly completely burned at such rates provided it is very finely pulverized. However, today experience has demonstrated that such rates are impractical. Excessive slagging of boiler tubes, combustible losses and high cost of pulverizing have placed fairly definite limits on practical combustion rates.

The value of continuous service or availability should be weighed. Among the causes for taking a boiler out of service are repairs to refractory furnace, repairs to stoker, cleaning the boiler inside, repairs to boiler and removing slag or ash accumulation from the boiler tubes and from the furnace and ashpit. Of these causes, the first four are, with the exception of repairs to stoker, virtually eliminated by water cooled furnaces, and proper water conditioning. The last is a factor of combustion rate and equality of coal and may also be eliminated as a cause for shut down by proper design of furnace.

We may therefore obtain the desired reliability by either designing for continuous service or by providing spare capacity in an additional boiler so that a regular schedule of outage may be established for all necessary cleaning and repairs.

Pulverized Fuel System

If the analysis has shown that pulverized fuel should be used, the selection of the system to be used next claims our attention. The choice between the indirect or bin system and the direct unit system depends on a number of factors such as reliability—first cost, power required, load factor and others. It should not be assumed that because the unit system is usually lower in first cost, it will prove the most satisfactory or economical.

The indirect or bin system is more flexible and subject to closer regulation and the reserve of pulverized coal in the bunkers insures against interruption to boiler operation because of mill outage.

The unit system is less flexible, has a lower range of capacity and any interruption in mill output due to breakage or other causes immediately reduces the output of boiler. The following quotation from a recent paper covers this point very effectively.

"The last three months have borne out the earlier conclusion that there is a distinct advantage in reliability to be obtained from a bin system of fuel firing over the unit system. During the past three months, on several occasions, it has been necessary to reduce the load on the plant from 5,000 kw. to 12,000 kw. due to difficulty with the mills used on the direct system. This has at times been due to breakage of mill parts due to wear and may be overcome after the operators are better able to judge a proper maintenance and overhaul schedule. Even with prearranged periodic maintenance it is of course, necessary to reduce the output unless it is possible to synchronize mill and boiler outage.

"In the last few weeks a Pittsburgh seam coal, which it was possible to purchase at a relatively low price, has been burned in small quantities for test purposes, and it was found that using this much harder coal on the direct-fired mills takes considerably more power and reduces output and necessitates overloading the mill motors in order to keep the boilers up to capacity. It is a condition which could not persist over a long period of time, as there is danger of burning the motors. Using the same coal on the bin system, the mill capacity is also seriously decreased, but by operating the mills longer hours, it is possible to maintain the boilers at any desired rating. This feature of flexible boiler capacity with

varying qualities of coal should be taken into consideration when deciding the relative merits of the two systems."

Knowing the coal to be used, the amount, pressure and temperature of steam and having determined the method of firing, the combustion rate and size of furnace, we are now in position to proceed with the selection of the boiler and the number required.

If the boiler must fit into an existing boiler room or between existing columns and beneath existing girders, the choice is much narrowed as is the case if the space available is otherwise limited. If a new building is contemplated, the boilers may be as large as may seem desirable and the number of boilers required may be reduced to a minimum.

With the number of units known and the furnace volume determined from the combustion rate, an approximation of the furnace width may follow. A very narrow boiler may not be suitable as in order to obtain the required volume in furnace, the height of furnace or depth from front to back or both may be too great to obtain a correctly shaped furnace. For example, if 10,000 cubic feet are required a boiler 20 feet wide with furnace 25 feet high and 20 feet deep would be well proportioned while a furnace 12 feet wide would be 30 feet high and 28 feet deep,—absurdly ill proportioned. Also, in a boiler and furnace too narrow, the draft loss will be too high.

It is quite well understood today that the so-called horsepower rating of boilers means little more than a measure of square feet of heating surface in the boiler and has little relation to the amount of water that may be evaporated in it. A sectional header boiler 24 tubes high with 10,000 square feet of surface evaporating 60,000 pounds per hour is developing 200 per cent of rating. Remove twelve rows of tubes, add a small economizer and the same 60,000 pounds of steam is 400 per cent of rating. Under this condition, the lower rows of tubes are doing little if any more work than before. Therefore, increasing the capacity or rating imposes no more strains or load on the parts of the boiler.

The limit in the amount of steam that can be generated in a boiler is the amount of coal that can be burned under it and the weight of gas that can be passed through the boiler without excessive draft loss.

The function of a water cooled furnace is primarily to eliminate refractory furnace maintenance. Incidentally, it makes possible much higher heat liberation rates in the furnace and because of the large percentage of the heat liberated that is absorbed by the walls, it reduces the temperature of the gas entering the boiler tubes.

A fully water cooled furnace will generate from 30 to 55 per cent of the total steam produced by a boiler unit.

Boiler Types

There are two major types of boilers suitable for our 600 pound pressure unit; the straight tube a sectional header boiler and the bent tube type as the Heine, Ladd or Stirling. These latter are three or four-drum boilers with one lower drum connected by tubes to three or two upper drums. There are sub-divisions of the latter type as the two-drum vertical or vertical inclined tube.

The sectional header type has a variation particularly suitable for high pressure. In this design the downtake header is vertical and the uptake header horizontal or nearly so and located at a point below the centerline of the steam drum the headers are connected by bent tubes sloping upward at about 10 to 15 degrees from the vertical header, then bending upward and entering the upper header in a vertical direction. This design provides flexibility with less extreme temperature stresses in tube holes and greater head.

Any of these boilers can be designed for any desired pressure. The factors determining the selection are not necessarily in order of importance; first cost, space occupied, space necessary for renewal of tubes, space in which boiler must be located, whether economizers or air heaters are to be used and space available for these. In the range of pressures of 500 to 650 pounds, the straight tube boiler will usually cost less, as riveted drums may be used whereas a bent tube boiler will require forged drums. Boilers for these pressures call for the best possible workmanship and materials and should be purchased only from manufacturers who have the best of manufacturing facilities and established reputation for high grade work. Drum plates will be cold pressed to true cylinders, all rivet holes in butt straps and plates drilled in place, straps then removed, burrs cleaned and replaced and holes reamed. The inside of shell after rivetting should be bored, the outside of heads turned and the shell heated to allow head to enter, after which rivet holes are drilled.

Frequently, it is desired to extend an existing boiler room to utilize existing coal handling apparatus. The space then available may be a deciding factor in the type of boiler. For example, extending a coal bunker may so block the aisle in front of the boiler that there will be no room to remove tubes from a sectional header boiler. It may not be possible to remove them from the rear, particularly if an economizer or air heater must be placed in the rear.

A bent tube boiler will often meet that condition and in addition the space between the inclined tubes and the front wall will add materially to the volume of the furnace.

A few years ago, much attention was given to the ease of cleaning tubes that is turbining to remove scale. I think it is safe to state that for high or moderately high pressure boilers operated at eight to twelve pounds of water evaporated per square foot of heating surface, the use of water that will permit scale formation in the boiler should not be tolerated. Adequate water treatment or conditioning is absolutely essential in a modern high pressure high capacity plant.

With regard to cleaning tubes, there is little choice between the two types of boilers. In the straight tube a scaffold must be erected in front of the uptake headers, the hand hole caps removed and replaced, all of which is done from the outside while in the bent tube boiler, the tubes are turbined from inside the upper drums.

Boilers of either type operated at over 100,000 B. t. u. per sq. ft. of heating surface will have exit gas temperatures 200 to 250 deg. F. above saturated steam temperatures. Hence fuel economy will dictate the installation of an economizer and or air heater following the boilers. For exit gas temperatures up to 700 or 750 deg. F. an air preheater will reduce the gas to about 350 deg. and preheat combustion air to 550 or 600 deg. F.

For stoker fired units, this temperature is too high and therefore the air heater should be preceded by an economizer or the economizer only should be used.

Also in direct fired pulverized coal firing, an air temperature of 550 or 600 deg. F. is under most conditions higher than desirable.

On direct fired units, an air temperature of 300 to 350 deg. F. will be found sufficiently high for mill drying. Higher temperature than this will necessitate excessive tempering. With an air preheater it is possible to bring the flue gas down to 200 deg. F but with few exceptions such a low temperature is not desirable.

Condensation may occur at the cold end of an air preheater at temperatures up to 300 deg. F. or higher. The actual temperature at which condensation will take place depends on the moisture in gas and also the sulphur-trioxide. Sulphuric acid vapors may condense at temperatures up to 350 deg. F.

Summary

First determine the coal or coals to be used, then the method of firing, the combustion rate, the grate surface or furnace volume, next the furnace width and size of boiler, the rate of driving, the type of boiler and the nature of the extended surface; that is economizer or air heater.

The best possible selection of equipment can be made only after analysis of all of the factors entering into the problem and assigning the proper value or weight to each of these factors. Different individuals will assign very different values to the various factors, personal prejudices too frequently enter into the equation, lack of knowledge of some of the factors all contribute to a wrong solution.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

For photostatic copies of articles appearing in the Abstract Section, address the chairman of the Abstracts Committee, Dr. Clarence J. West, National Research Council, 21st and B. Streets, Washington, D. C. The charge for this service is: Photostats 9 x 11 inches, 18 cents each; 18 x 11 inches, 35 cents each; 22 x 18 inches, 70 cents each; minimum charge, 50 cents. Payment should be made upon receipt of invoice. Copies of United States patents may be obtained from the U. S. Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Alkaline Process

Cellulose Pulp Web. George A. Richter assignor to Brown Co. U. S. pat. 1,790,839 (Feb. 3, 1931).—A web which is highly absorptive of impregnating substances comprises gelatinized cellulose and loosely felted, substantially uncompacted fibers in unbeaten condition.—A.P.-C.

High Alpha-Cellulose Fiber. George A. Richter assignor to Brown Co. U. S. pat. 1,790,170 (Jan. 27, 1931).—Predigested wood pulp is digested in fresh alkaline liquor containing sodium compounds such as caustic soda or sodium carbonate and sufficient spent liquor from the digestion is mixed with spent kraft liquor to make up soda losses suffered in the kraft digesting cycle, and soda constituents are recovered from the spent mixed liquors.—A.P.-C.

Treating Waste Liquors from Soda or Sulphate Pulp Manufacture. E. L. Rinman. Brit. pat. 335,371, (July 15, 1929).—Waste liquors are treated with oxides or hydroxides of barium or strontium, or both, preferably mixed with those of calcium, magnesium, aluminum, zinc or iron, before dry distillation, and neutral substances such as carbon powder or alkaline-earth carbonates may be added. The product is preferably evaporated to a non-sintered mass below 150° C., crushed and then fed through a distillation furnace heated to 600° to 700° C. at one end and 200° C. at the other end (steam at 500° C. being introduced into the hotter end), and the distillate thus formed may comprise methanol, acetone, methylethyl ketone, acetone oil, other heavy oils and hydrogen, contaminated with mercaptans and sulphides if sulphate liquors are used. Soda may be recovered from the distillation residue.—A.P.-C.

Concerning the Distillation of the Waste Liquors from Pulp. Ernst Strupp. Papier-Fabr. 29, No. 23A, 52-71 (June, 1931).—The author discusses in a very comprehensive and thorough manner the following topics concerning the distillation of the waste liquor from the manufacture of pulp. 1. Introduction and bibliography. 2. A statement of the problem, waste liquors from pulp as combustible material, distillation as a means of utilizing the less valuable combustible materials. 3. History experiment in Shutskar, Schachts work in Weisenfels, making the Regensburger mill into a soda pulp mill, investigations in foreign countries. 4. Principle of the Rinman process. 5. Apparatus for the Rinman process, A. decantation and transportation of the pre-treated liquor, B. distillation retorts, C. apparatus for the combustion of the soda ash. 6. Control of the combustion process according to Rinman. 7. Results of the Rinman process at the Regensburger mill. 8. Value of the yield by the Rinman process. 9. Criticism of the Regensburger undertaking, organization, poor quality of the raw material and an improperly designed mill. 10. The most important mistakes, were, the addition of fresh liquor to the waste liquor, the distillation in a liquid state, the discontinuous distillation process, the blowing of steam into the retorts, the utilization of the retort gases and the power consumption according to the Rinman process. 11. The economic heat balance of the distillation of the waste liquor, the heat of the waste liquor, the evaporation of the dilute liquor, the theoretical heat requirement for the distillation and the combustion of the distillation coke. 12. Concerning the technique of the distillation, Rinmans distillation investigation, the distillation of brown coal, the method of spraying the gas, and pre-treatment of distillation, Rinman's distillation investigation, the distillation of waste liquors of all kinds. In conclusion the author states that this process is practical and if it were not for reasons which were in no manner responsible to the process itself, it would have proven an economic success at the mill at which it was tried.—J.F.O.

Process for the Manufacture of Rosin Soap, Rosin Emulsion, Sizing Substances, for Example, Used in the Sizing of Paper, for Impregnation of Substances, as a Filler for Wood, and Similar Uses. Chemische Fabrik Pott & Co., Dresden and Ferd Schoeller. Ger. pat. 507,506 (May 26, 1925). Natural rosin and resinous substances are used, which are changed into a water soluble form with the help of aqueous solutions, such as sulphonic acid, aromatic, chiefly polynuclear carbohydrates whose substitution products forms salts with these substances. For example, in the resinifying of wood, the saw dust is cooked for one hour with a five per cent aqueous solution of isobutyl-betanapthaline sulphonic acid. The liquor is then removed and the saw dust or chips are washed.—J.F.O.

Process for the Purification, That is the Recovery of Impure Alkali Liquor Containing Organic Substances. I. G. Farbenindustrie A.G. Frankfurt a.M. Swed. pat. 70,576 (Jan. 13, 1928).—The liquor is treated in autoclaves at temperatures over 100° C. and in the absence of catalysers, with oxygen or substances containing oxygen, at a pressure of over 1 atmosphere. The alkali carbonate formed is changed into the hydroxide by means of chalk.—J.F.O.

Sulphite Process

Manufacture of Sodium Sulphite, That Is Bisulphite Solution from Alkaline Waste Liquors. Zellstofffabrik Waldhof and Otto Faust. Ger. pat. 507,523 (Aug. 10, 1928).—The waste liquor from the mercerisation process, that is, liquors used in the cellulose manufacture or its finished products are used, then treated with sulphur dioxide and separated if necessary from the organic materials precipitated therefrom.—J.F.O.

Purification of the Oven Gases, Especially Used in the Making of Sulphuric Acid and the Manufacture of Sulphite Pulp. I. G. Farbenindustrie Akt. Ges. Frankfurt a.M. Ger. pat. 514,318 (May 21, 1925).—The boiling temperature of the wash acid and the inlet temperature of the oven gas precooled below 100° C. are regulated to each other so that the temperature of the gas constantly remains a little below the temperature of the wash acid. —J. F. O.

Process for the Roasting of Iron Pyrites. M. Abel, Oslo. Nor. pat. 48,606 (May 8, 1929).—The iron pyrites occurring in a finely divided condition is suspended in the combustion medium and is introduced into the combustion chamber by means of a nozzle. The iron pyrites is heated so strongly that an atom of sulphur is split off at 600 to 800° C.—J.F.O.

Process for the Manufacture of New Products from Lignin Sulphonic Acid. British Dyestuffs Corporation Ltd., Manches-

ter. Swed. pat. 70,394 (Oct. 11, 1927).—The lignin sulphonic acid is treated in an enclosed container and under heating with ammonia in such quantities, that this reacts with the organic components of the lignin sulphonic acid whereby the same is converted into new valuable products.—J.F.O.

New Cheap Material for Lining and Cementing Sulphite Digesters. Wochbl. Papierfabr, 62, No. 1; 7 (Jan. 3, 1931). A new material has been made which costs less than a seventh of what other previous materials cost and which also is supposed to make Germany independent of the other countries which have been exporting this kind of material to Germany. The trade name for this material is "Hochst" acid cement, and is a special kind of water glass. This type of water glass hardens by chemical decomposition instead of the usual drying process.—J.F.O.

Contribution to the Knowledge of the Sulphite Cooking Process. K. G. Jonas and P. Walter. Wochbl, Papierfabr. 62, No. 23A: 55-58 (June 6, 1931).—The authors report that there is no special good in the steaming of the wood prior to the cooking. The increase in pressure during the pre-cooking stage is of more benefit than a lengthening out of the time for this stage, as it results in shorter cooking time, increased uniformity, higher yield and better strength. Chlorides of sodium and ammonium from 1 to 5 per cent were added to the cooking acid and the results noted. With 1.3 per cent of ammonium chloride, a pulp of much better quality was obtained with a shorter cooking time. Experiments were also tried with sulphurous dioxide without any bases and an excellent pulp was obtained when the cooking was carried out under 110° C. Numerous curves and other data are given.—J.F.O.

Mechanical Control of the Sulphite Cooking Process. E. M. Leino, Papier-Fabr. 29, No. 4: 55-56 (Jan. 25, 1931).—In determining the degree of cooking desired, there are two good methods which are indispensable and should be used together. The one is the permanganate number which gives a good indication of the quality of the pulp and the other is a test for the color of the cooking liquor. The author has devised an ingenious apparatus for mechanically carrying out the permanganate number test and this apparatus is described in detail along with an outline drawing of the apparatus.—J.F.O.

Sulphite Pulping Process. Guster Haglund assignor to Patentaktiebolaget Gröndal-Ramen. U. S. pat. 1,791,476 (Feb. 3, 1931). Wood chips, before cooking with sulphite liquor, are preliminarily soaked in a cooking liquor produced in the usual manner without any addition of waste liquors from previous cooking operations, and, after removal of part of the cooking liquor, the chips are cooked with a cooking liquor mixed with waste liquor from a previous cooking operation or with such liquor from a digester which is being cooked.—A.P.-C.

Preliminary Treatment of Wood Prior to Sulphite Cooking. Karl G. Bergström and Arthur F. Zennström. Fr. pat. 689,560 (Feb. 7, 1930). Wood or other vegetable products are treated to obtain cellulose, with recovery of by-products, by exhaustion with a weak alkaline liquor at ordinary temperature to recover acetic, formic and other acids. With a resinous wood a further treatment with heated stronger liquor is given. The lignin obtained is used for the production of a pure carbon.—A.P.-C.

Process for the Production of Cellulose. Gerard de Bartillat. Fr. pat. 692,105 (June 5, 1929). Cellulose is obtained by the action of a solution of sulphur dioxide or salts or solutions of salts in which sulphur dioxide enters into combination (sulphites, bisulphites, etc.) on wood in an autoclave heated to from 100 deg. to 110 deg. C. at a pressure of 20 to 25 atmospheres. Catalysts such as lead, aluminum, or their oxides, may be added to the solution.—A.P.-C.

Cellulose Pulp from Lignocellulosic Material. Robert B. Wolf, Raymond P. Hill and Raymond S. Hatch. U. S. pat. 1,788,555 (Jan. 13, 1931). Material such as wood is treated with a non-aqueous liquor containing sulphur dioxide, *e.g.*, anhydrous liquid sulphur dioxide.—A.P.-C.

Some New Processes for the Separation of Fibrous Cellulose From Plant Substances. J. Melrose Arnot. World's Paper Trade Rev. 95: 961-964 (March 13, 1931). An address briefly discussing some of the most recently proposed pulping processes.—A.P.-C.

Rosen Process for the Production of Sulphite Pulp From Resinous Woods. E. Meunier. Papeterie 53: 214-218 (Feb. 25, 1931). A brief discussion of the process and its merits. The difficulties encountered in pulping resinous woods by the sulphite process have been found to be due to the fact that the composition of the resin acids in the heartwood apparently differs from that of the resin acids in the sapwood. Rosen overcomes the difficulty by a preliminary treatment of the chips in the sulphite digester with a weak alkaline-earth solution for 2 to 5 hours at a temperature of up to 110 deg. C., followed by washing with salt solution; this treatment can be repeated if necessary; the chips are then treated with sulphur dioxide gas, and are then subjected to the usual low-temperature sulphite cooking, yielding a very pure pulp, low in ash and containing up to 92.4 per cent of alpha-cellulose, which can be bleached with 2.5 to 4 per cent of available chlorine.—A.P.-C.

Sulphite Wood Pulp Production. Donald E. Cable assignor to Oxford Paper Co. U. S. pat. 1,790,260 (Jan. 27, 1931). Material such as wood chips is subjected to the digestive action of a reagent such as a bisulphite solution under an initial "penetration-boosting pressure" of a non-oxidizing gas such as nitrogen, which is permanently gaseous at ordinary temperature and pressure and is not substantially absorbed in the digestive process.—A.P.-C.

Explosion of a Sulphite Digester. Anon. Pulp Paper Mag. Can. 31: 363-364, 392-393, 406-408, 418-420 (March 12-26, 1931). A detailed account of the investigation following the explosion of a 100-cubic meter digester, at the Lancey mill of the Papeteries de France, which occurred on December 4, 1927, killing 5 men and injuring 6 others. The exact cause of the accident was not discovered, but it was shown that the action of the acid-proof brick lining could increase threefold the effects of the internal pressure, and that owing to the dimensions of the digester the metal was working above its elastic limit, resulting in rapid fatigue and ultimate embrittlement.—A.P.-C.

Heat Conservation in Paper Mills. D. K. Dean. Foster Wheeler Corp., New York. Paper Trade J. 92, No. 12: 59-62 (March 19, 1931). The Foster Wheeler Co. has developed a heat exchanger for recovering heat units from the flash steam generated when a digester is blown; the principle consists in passing the hot pulp into a chamber maintained under a vacuum and drawing off the steam to condense it by means of a direct contact water jet. With a digester of 3610 cu. ft. capacity, cooking 3 times per 24 hrs. at a pressure of 125 lb. gage, the estimated yearly saving is in the neighborhood of $5,000. The same company has developed a heat exchanger for recovery of heat from the air exhausted from paper machine rooms: it consists of a tower constructed in accordance with the general design of forced draft cooling towers. The estimated saving per year in the case of one installation is $16,000, at a total first cost of only about one-third this sum.—A.P.-C.

Recovery of Organic Materials from Sulphite Waste Liquors. Société Barbou et Cie (Pierre Weill, inventor). Fr. pat. 36,975 (March 15, 1929); addition to 642,270. In recovering organic materials from liquors resulting from the treatment of vegetable materials with sodium sulphite, sodium bisulphate is used instead of sulphuric acid in the process of the main patent.—A.P.-C.

Sulphite Liquor Recovery. Pierre A. Barbou (Pierre Weill, inventor). Fr. pat. 36,977 (March 16, 1929); addition to 628,775. In the recovery of sulphur dioxide and soda from sulphite liquors the treatment with lime is followed by a treatment with carbon dioxide to transform the caustic soda into sodium carbonate which will react to form calcium carbonate and sodium bisulphite.—A.P.-C.

Description and Historic Growth of the Alcohol Manufacture from the Waste Liquor from the Pulp Mills in Germany During the War 1914-1918. Walter Sembritzki, Papier-Fabr.

29, No. 5: 69-74; No. 6: 86-92 (Feb. 1-8, 1931). A comprehensive general review of the beginning of the manufacture of alcohol from the waste liquor from the pulp mills and its production throughout the war. The poor yield of potatoes in 1916, less than half, made it imperative that a new source of alcohol should be secured. One thousand liters of alcohol is obtained from ten tons of potatoes. Mills producing 287,000 tons of pulp were soon making 1,114,800 liters of alcohol. An average yield would run from 1.2 to 1.5 per cent of fermentable sugars and the yield of alcohol corresponding amounted to .8 to 1 per cent. The process itself is described being divided into three stages, neutralization, fermentation and distillation, each discussed in detail, with plans and illustrations. In conclusion the author discusses the economic feasibility of alcohol production.—J.F.O.

Process for the Recovery of Volatile Distillation Products from the Relief Gases from Pulp Digesters by Cooling. Metallgesellschaft A.G. Frankfurt a.M. Ger. pat. 512,957 (May 31, 1927); addition to Ger. pat. 437,531. The relief gases from the digester are so cooled in progressive stages, that first practically only steam separates off, then follows a water oil emulsion, then through the aid of the necessary artificial cooling the greater part of the oil is separated, whereupon the escaping gas is washed by the cooled oil and the gas then being led into a tower. The oil used for washing is that oil or fraction of it recovered during the process. The cooling of the oil is carried out by the cooling medium which feeds the gas or sprinkler tower water cooler, or a part of the same before its entrance to the said cooler. Several digesters posses a mutual intensive cooling system wit ha wash apparatus, with separate precoolers. In order to increase the washing action the washing tower is provided with special spiral sprays.—J.F.O.

Process for the Manufacture of Oils and Other Products from Solid Combustible Materials Mixed with the Waste Liquor from the Manufacture of Pulp. A. R. Lindblad, Stockholm, Swed. pat. 70,259 (Jan. 3, 1929). Solid combustible materials, such as anthracite coal, bituminous coal, peat and wood are mixed with the waste liquor from the manufacture of pulp, and the mixture is subjected to reduction at high temperatures and high pressures.—J.F.O.

Process for the Manufacture of Combustible Matter from the Sulphite Waste Liquors and Wood or Peat Through Mixing These Materials. T.S.F. Norrbin, Stockholm. Swed. pat. 70,542 (March 20, 1928). The sulphite waste liquor constitutes from 10 to 25 per cent of the mixture. This mixture is dried and then heated from 180 up to 250 deg. C., whereby the wood mixture breaks up through the action of sulphuric acid which results from the self oxidation of the liquor containing liberated sulphur dioxide, and an amorphous powder results.—J.F.O.

Concentration and Simultaneous Regeneration by Oxygen of Acid Solutions Containing Sulphur, Relief Acids and Similar Materials. Alexander Wacker Ges. fur elecktrochemische Industries, G.m.b.H., Munich. Ger. pat. 508,321 (Jan. 7, 1930). The waste acids are treated with a substance obtained from the action of the oxide of sulphur on the oxide of nitrogen in the usual manner, in the presence of air or oxygen. The oxidizing action of the combination is helped by accelerators.—J.F.O.

Nitric Acid Process

Decomposition of wood with nitric acid. P. Krais, German Research Institute for Textiles in Dresden. Papier-Fabr. 29, No. 23A: 71-73 (June, 1931). The future of the nitric acid decomposition process for wood is closely linked with the price of the raw materials, that is, power and air for the production of oxides of nitrogen. The author then briefly reviews the main patents on the subject. With a 25 per cent consumption of nitric acid, a suitable pulp is produced with an alpha content equaling that of sulphite pulp.—J. F. O.

Beating

Continuous Beating Engine. Jean Weibel. Fr. pat. 691,591 (July 15, 1930).—The separator consists of a screening drum of suitable mesh placed at the top and parallel to the backfall, so that the unfinished stock is raised higher than the top of the backfall, thus increasing the head which produces the circulation of the stock in the beater.—A.P.-C.

Pulp Beater. Walter N. Sherwood. U. S. pat. 1,780,845 (Nov. 4, 1930). The fly bars are much thinner (about 1 inch) and much closer (about 1 inch apart) than in the usual beater rolls, and consequently about two or three times as numerous. The roll is driven at a peripheral speed of about 2500 to 3500 ft. per min. The backfall extends above the axis of the roll. The pulp is violently projected from the roll by centrifugal force; it is thrown over the backfall upon or into the pulp which is travelling in a direction at right angle to the movement of the projected pulp.—A.P.-C.

Beater Roll. Albert J. Allison assignor to Simonds Worden White Co. U. S. pat. 1,778,710 (Oct. 21, 1930). The fly bars are arranged in groups with spaces between the groups, and the bars are set diagonally instead of parallel to the axis of the roll, some of the bars being inclined in one direction and others in the opposite direction. Corrugated fly bars may be used instead of straight fly bars. This arrangement of the fly bars causes the stock to be displaced sideways towards and away from the midfeather and outer wall of the tub—A.P.-C.

Bleaching

Bleaching Studies. I. An Integrating Attachment for Hess-Ives Tintometer. F. H. Yorston. Research Notes 3: 11-13 (1930); Pulp Paper Mag. Can. 31: 338-339, 360 (March 5, 1931). The Hess-Ives tintometer has been supplied with a device for intensifying the tint of nearly white materials by multiple reflection of light at the surface of the material. By its use differences between the reflection factors of different bleached papers, measured through any particular color filter, are magnified two to three fold. Further, since the magnification increases with the value of the reflection factor, differences in hue are greatly accentuated.—A.P.-C.

Bleaching Studies. II. Measurement of Hydrogen Ion Concentration of Bleach Liquors with the Glass Electrode. F. H. Yorston. Research Notes 3: 15-16 (1930); Pulp Paper Mag. Can. 31: 374-375 (March 12, 1931). Consistent and accurately reproducible measurements of the hydrogen-ion concentration of bleach liquors can be made with the glass electrode and a vacuum tube potentiometer. Hypochlorous acid acts as a buffer in bleach liquors within the range of pH 6.5 to 8.5.—A.P.-C.

Use of Liquid Chlorine in the Preparation of Bleach Liquors. H. R. J. Feeny. World's Paper Trade Rev. 95: 1092-1096, 1154, 1156 (March 27, 1931); discussion, 1303 (Apr. 10, 1931); Paper Maker 81, No. 4, suppl. cxv-cxviii (Apr., 1931). After a brief outline of the advantages of liquid chlorine, its use for the chlorination of bleaching powder and of milk of lime in paper mills is briefly outlined.—A.P.-C.

Bleaching Paper Pulp. Wilhelm Hirschkind assignor to The Great Western Electro-Chemical Co. Can. pat. 307,440 (Jan. 6, 1931)—Wood pulp is treated with sodium thiosulphate in the presence of moisture as a final bleaching step prior to the making of paper.—A.P.-C.

Determining the Bleachability of Pulps. R. Karlberg. Paper Trade J. 92, No. 11: 41-44 (March 12, 1931); Papier 34: 385-398 (Apr., 1931). A review of methods developed for the quantitative determination of the amount of bleaching powder or chlorine required for bleaching pulps, in the form of abstracts taken mostly from the German literature.—A.P.-C.

Method of Bleaching Pulp. Dennish C. Andrews assignor to The Northwest Paper Co. U. S. pat. 1,782,800 (Nov. 25, 1930). The pulp to be bleached is delivered into a tank provided with a false bottom. The excess water in the pulp is allowed to drain and at the same time bleach liquor is pumped into the tank to displace the water. As soon as bleach appears in the

effluent, the valve to the sewer is shut and the bleach is pumped to a tank from which it flows back by gravity to the pulp-containing tank, and circulation is continued till bleaching is finished. The pulp is then washed in the tank.—A.P.-C.

Concerning the Bleaching of Cellulose. Hermann Wenzl. Papier-Fabr. 29, No. 4: 49-55 (Jan. 25, 1931). Recent investigations concerning the bleaching of pulp have been carried out with the view of studying the kinetic reaction and the physical chemical action. The transformation reaction of the hypochlorite and the absorptive powers of the cellulose fibers are studied. In this connection, new methods were advocated using catalysers to influence the equilibrium of the reaction. A new continuous method for bleaching was described, on which the pulp carried on a belt is drenched with bleach liquor twice with washings with acid between each addition of bleach liquor, the liquor being removed by pressing and suction. It is claimed that by this method there is no fiber loss to amount to anything and the fiber is practically uninjured. The paper is accompanied by numerous curves and tables.—J. F. O.

Manufacture of a Bleaching Powder Which is Stable in Storage. I. G. Farbenindustries A. G. Frankfurt a.M. Ger. pat. 508,167 (July 17, 1929). The bleaching powder of 36 per cent active chlorine or more, made in the usual manner is mixed with about half as much up to an even quantity of undissolved calcium. The mixture is completely freed from water by treatment with a stream of warm air.—J. F. O.

Process and Device for the Production of Bleach Liquor. Chemische Fabrik von Heyden A. G. Radebeul, Ger. pat. 512,-863 (Nov. 24, 1925). The invention concerns itself with the production of a bleach liquor from solutions, that is, suspensions of a metallic hydroxide or oxide on the one hand and gaseous chlorine as the other medium, in towers whereby the absorption medium becomes saturated.—J. F. O.

Process for the Rapid Bleaching of Plant Fibers. I. G. Farbenindustrie A. G. Frankfurt a.M. and C. G. Schwalbe, Eberswalde, Germany. Swed. pat. 70,438 (Jan. 8, 1925). The fiberous material is first drenched with a bleaching solution containing at least four grams of active oxygen per liter, (in the form of active chlorine or peroxide), the excess bleach is then removed by pressure to a quantity which suffices to carry to conclusion the bleaching at the higher density with the addition of heat to the desired temperature.—J. F. O.

Process for the Bleaching of Pulp and Similar Materials. Paul Erkens, Duren. Ger. pat. 503,451 (Oct. 4, 1927). The stock being bleached is mixed with the bleaching agent and continuously fed into one end of a revolving drum and out the other end. The stock forms a thin layer in the drum and can be repeatedly passed through the drum until the desired bleach action has taken place.—J. F. O.

Dyeing

Dyeing Paper and Paper Pulp. Société Anonyme pour l'Industrie Chimique à Bâle. Fr. pat. 693,172 (April 2, 1930). A unilaterally mono- or di-acylated diamine such as oleyldiethylethenediamine is used as adjuvant in dyeing paper or paper pulp.—A.P.-C.

Classes of Color Used in the Dyeing of Paper. Harold E. Pratt. Pejepscot Paper Co., Brunswick, Maine. Paper Trade J. 92, No. 14: 57 (April 2, 1931); Paper Mill 54, No. 8: 58, 60 (Feb. 21, 1931); Tech. Assocn. Papers 14: 174 (May, 1931). A brief review of the application of basic, acid and direct dyes and pigments to paper coloring, pointing out their limitations. —A.P.-C.

Coating Materials

Further Study of Paper-Coating Minerals and Adhesives. Merle B. Shaw, George W. Bicking and Martin J. O'Leary. Paper Trade J. 92, No. 14: 52-57 (April 2, 1931); Tech. Assocn. Papers 14: 169-174 (May, 1931). American clays examined compared favorably with foreign clays as paper-coating mineral and produced good printing qualities. Diatomaceous earth compound did not adhere well to the base paper. The modified starches used did not appear to have as strong adhesive qualities as casein or glue. Graded according to their clay-suspending property, the adhesives were in the following descending order: starch, casein, glue. Chemical analyses, color measurements and settling data for the minerals used are given—A.P.-C.

Importance of the Iso-Electric Point in the Manufacture of Casein for Paper Coating. R. W. Bell. Paper Trade J. 92, No. 13: 55-56 (March 26, 1931); Papier 34: 643-644, 647 (June, 1931); Tech. Assocn. Papers 14: 167-168 (May, 1931). The iso-electric point is at a pH of 4.6, at which point minimum solubility occurs. Casein having this pH value, by whichever process it has been prepared, will, if other factors are properly controlled, be low in ash, dissolve easily, have high adhesive strength and good flowing properties.—A.P.-C.

Continuous Coated Paper Drying Machine. Carle J. Merrill. U. S. pat. 1,779,611 (Oct. 28, 1930). The apparatus is constructed to permit paper which has been coated on one side to follow a circuitous path, supported by an endless conveyor, in such a manner that the coated surface does not come into contact with any solid surface. Before the point where the conveyor comes in contact with guide rolls which would contact with the coated surface of the paper, the sheet is deflected off the conveyor on to a curved guide plate against which it is held by air pressure and which delivers it back again on the return stretch of the conveyor. Heated air is delivered over the whole surface of the paper inside the drier. After leaving the drier, the sheet is cooled by blowing air at atmospheric or lower temperature.—A.P.-C.

Coated Paper and Process of Manufacturing Same. William W. McLaurin. U. S. pat. 1,780,793 (Nov. 4, 1930). A hard coating, suitable for making high-grade printings, is applied to the portion of the sheet that is to be printed, leaving uncovered the portions which are to be folded. A softer coating is applied to the same thickness along the portions of the sheet that are to be folded, thus permitting of folding without breaking or cracking the coating along the folds.—A.P.-C.

Sizing

Process for the Manufacture of Paper. K. Sven. Sarpsborg, Norway. Swed. pat. 70,577 (Feb. 3, 1926). An aqueous solution of gelatine or size is added in small amounts to the paper stock just as it leaves the stock inlet or immediately afterwards, suitably in quantities under .5 per cent of the weight of the paper.—J. F. O.

Drying

Concerning the Fidalgo Drying System of Drying Pulp, Along with the Strength Properties of the Paper Made from Pulp, Which Has Remained Moist, Pulp Dried on Cylinders and Pulp Made by the Fidalgo System. Fr. Muller and R. Trenschel. Wochbl. Papierfabr. 62, No. 23A: 25-35 (June 6, 1931). By means of tests and tables containing comprehensive data, the authors state that the power consumption for the Fidalgo System for an equal production of pulp is actually 38 per cent higher than that for pulp dried on cylinders. The authors also claim that the steam required for the Fidalgo System is no less than that used in canal or chamber dryers, and only about ten per cent less than for pulp dried on cylinders. Regarding labor, the authors contend that the same amount of labor is required for the Fidalgo System as for cylinder dryers. Tests are then made on the finished paper, using pulps from the three sources. From results it is shown that paper made from wet pulp is unquestionably superior, while paper made from pulp carefully dried on the cylinder machines equal in strength to paper made from pulp made by the Fidalgo process. Numerous curves and other data accompany the article. —J. F. O.

Section of the

COST DEPARTMENT

of the

American Paper and Pulp Association

Edited by T. J. Burke C. A. Director Cost Dept.

What Executives Need from Accountants*

By J. C. Belden[1]

A good deal of presumption is required for me to address a chapter of the National Association of Cost Accountants. Mr. Cooke, your Program Director, invited me way back last August to speak at your March dinner meeting. Anything looks easy eight months away. I thought it would be good for me—not necessarily for you—to have to prepare and speak on such a subject and I readily consented. If I have any qualifications to talk to a meeting like this, it is because of the vicissitudes and difficult situations we have had to meet since the war, after fifteen years of peaceful existence before that time. We have had to learn something about manufacturing and something about cost accounting if we wished to remain in business. I warn you that I am not an experienced speaker nor an expert accountant. However, I get on well with men in your profession. They have told me unpleasant and chilling truths, thrown cold water on some of my best ideas and made me like it.

I was describing to my boy shortly after he was graduated from college some of the difficulties we went through in the period of deflation following 1920. I told him how our Comptroller would come to me each month and say blandly, "Our statement shows a loss of so many thousand for last month and here is an item of $9,000 of cable on our inventory, made for the Navy, of which not a foot has moved since the war, and we shall have to charge it off." He did not have the slightest hesitation in plunging me into this kind of ice water. My boy said, "Did you make him that way?" and I replied, "No, the Lord did," illustrating my belief that the true accounting temperament is a gift from Heaven.

When Mr. Cooke first asked me to talk he suggested the subject—"What Executives Want from Accountants." I notice on the program that the title is changed but I will tell you anyway what executives want and need from accountants. They want a liberal education in the fundamental principles of accounting. Most executives don't know they need it but are sure their competitors do.

Business has given most of us such a headache recently that we feel like Bill Nye, who said that at one time in his life he was so discouraged he tossed a penny to see whether he would go into the retail clothing business or commit suicide; it came down for suicide. He bought a pistol but his head ached so he could not bear to shoot into it.

New and complex tendencies in modern business have brought difficult problems to the accountant. In diversifying a business—how is cost on the new lines to be figured at the outset? How are overheads to be allocated? The executive usually believes the new line can be manufactured without any overhead—the old lines can carry it all. Everything on the new line above labor and material will be clear profit. My company has been through these experiences. We started making a single kind of wire. Finding ourselves too dependent and in a really vulnerable position we discovered diversification. We carried this so far that in 1920-21 we found ourselves with a number of departments too small to make efficient competitive units. Generally speaking, we have been backtracking ever since. With each step backward from diversification we have improved our specialization and correspondingly strengthened our position. *We still believe in a certain amount of diversification, but it must be in proportion to the capital of the company and the capacity of the management; and for small companies diversification should dovetail with existing manufacturing facilities, and be able to utilize the same selling channels.* Business can no longer succeed on a basis of mediocrity as many businesses have succeeded in the past. Specialization is absolutely essential and we have found that we cannot mix much diversification with it.

An executive with "delusions of grandeur" needs a hard-headed and cold-blooded accountant to bring him back to earth. You may guess I am thinking of experiences and arguments we have had with our Comptroller. The accountant can figure on paper whither plans are leading. No executive should ever undertake an expansion program without giving the Accounting Department a crack at it. The accountant should budget the operations of a new department, project it into the future for two or three years, and make a complete financial picture for the management. The accountant can perform no more useful service than by preventing his company from engaging in ill-advised ventures. He should insist that every operation performed carries with it overhead cost, and it is equally true that every operation discontinued reduces overhead cost. Companies having unprofitable departments often hesitate to discontinue these departments because they don't know what to do with the overhead previously allocated to these departments. Here lies many fine opportunities for the Cost Accountant to convince the executive that the slack can be taken up and to show how it can be done. The chief accountant of a manufacturing company on this basis

* N. A. C. A. Bulletin.
[1] President, Belden Mfg. Co., Chicago.

may be regarded as one of the principal executives of the company, regardless of his exact title, and so we regard ours. There is no time to go into the technique of distribution of accounts and of no use, as you men know more about it than I do.

Present day conditions are much more exacting now than before the great war. In meeting these new conditions of fluctuating demand, fluctuating prices and intense competition, we have leaned heavily on our Accounting Department. Special attention paid to the following phases of accounting have been very helpful:

1—Adjustable Budgets.
2—Normal Overheads.
3—Depreciation.
4—Separation of market from operating gains and losses.

I claim nothing original to put before the Chicago Chapter of the N. A. C. A. but give my views based on our experiences for what they are worth.

Adjustable Budgets

When the business of my company was first placed on a budget basis we continually found that our rate of production was either far above or below normal operations on which the budgets were set. In discussing expenses with a foreman he would always point out that his operations were higher or lower than normal as the reason that his budget was out of line. I understand that many companies have prepared budgets for different rates of operation so that they have expense budgets suitable to compare with any rate of operation. Our Comptroller devised quite a satisfactory method of meeting this situation, which has the advantage of simplicity. Our expenses are divided into three classes, as follows:

Fixed Expense
Semi-Variable Expense
Variable Expense

Fixed expense includes such items as rent, insurance, depreciation, factory superintendent, watchman, etc., not subject to variation.

Semi-variable expense includes such items as foremen and assistants, inspectors, clerical, etc.

The pure variable expense, which should and must vary directly in proportion to the volume of production, includes such items as power, repairs, stores expense, shipping expense, etc.

The semi-variable expense is split item by item, part being transferred to fixed expense and the balance to variable expense. For example; under semi-variable expense consider the class of foremen and assistants—certain foremen would be kept in an organization regardless of the rate of business. Other foremen and assistants might be dropped from the payroll in proportion to the needs of the business. That difference would be the basis of splitting the amount of that account between fixed expense and variable expense. After this has been done, you have your factory expense budget divided into two items, fixed and variable. The variable expense should vary exactly in proportion to production, and fixed expense not at all. Quite a bit of work must be done at the beginning of the year to divide the semi-variable expense up in this manner, but after that it is an easy matter to determine a budget based on the volume of production in the department.

We do introduce some additional refinement by taking into consideration the increased efficiency of our working force on a low rate of production, when only the best of our people have been retained, and vice versa, the decreased efficiency under conditions of abnormal production when new people have been hired into our organization. The benefits of operating on a budget basis are so well known that it seems a waste of time to discuss them, although a great many large companies today are operating without a budget. Not the least of these benefits is the comprehensive grasp of the set-up of your business machine obtained after you have gone through the hard detailed work of preparing an operating budget. And under the widely fluctuating conditions of recent years budgets are almost worthless unless they can be adjusted quickly to correspond to an actual basis of operations.

From an executive point of view, time is the essence of usefulness in reports on factory operations. It is not difficult to lose sight of the purpose of accounting. We forget we are compiling information as a weekly guide for the conduct of business, and think that we are compiling history as if the record were the thing instead of the purpose for which it is used. I believe Henry Ford is credited—by one of his interviewers—with making the statement "That too many business men are content with finding out what has happened, and that real management consists of making certain things happen according to a plan." It is not enough to tell the factory manager on April 20 that his March expenses were way out of line with the rate of production, for by that time another month is gone and the damage is repeated. Factory expense figures should be accumulated weekly so that they can be placed in the hands of the Factory Superintendent and foreman. I know of no other way that expenses can be kept within budget limits.

Too many executives call for certain reports covering some temporary situation, and are careless enough to continue to receive these reports for months and years after their usefulness has ceased. This is one place where the Cost Accountant should check up his boss and not be imposed upon.

Normal Overhead

I prefer to use this heading rather than talk over absorption or under absorption of overhead. What business needs today is a true and stable cost on which to base a business policy. To obtain that involves a determination of what is normal production and what is normal expense for that particular amount of production.

On account of the great fluctuations in demand in recent years, we find that we must base our normal production on the experience of a period of years—preferably five to seven years. Of course, in a rapidly changing industry any extended period might be useless as a criterion. But in the old highly competitive lines there is no satisfactory substitute for the term of years. In one of our stamp departments 80% of capacity is the normal, and in another 85%. When the normal production has been determined, it is relatively easy to determine normal expense for that rate of operation, which is, of course, the base figure of the budget.

You now have a single cost basis, which, over a period of years, will be correct. I am aware that the market price may sometimes be above this cost, and sometimes below it. In fixing selling price, the market price is often a more important factor to take into consideration than your cost. *If your competitors follow a wrong policy, you will have to meet their competition, but you do not have to figure your costs incorrectly. The more companies in an industry which figure their costs on a sound basis, the less demoralizing competition there will be in that industry.* I am trying to make a point against the policy of using a different cost basis to meet each new competitive condition that arises in trade.

One of our good friends in business told us recently that their overhead rates were changed every three months.

and that if in the first quarter they failed to absorb their overhead, the overhead rates were increased so they would be absorbed in the second quarter. The trouble with this policy is that in a depression it is necessary to raise overhead rates on account of low production, and you arrive at high costs at a time when low costs are absolutely necessary to meet the market. Conversely, during good times when good prices are obtainable, large production brings you out with very low costs. The question may arise as to what you are going to do when the market price rules below a standard cost based on normal production and normal overhead. The only thing I know is that the executive who has this decision must weigh the loss on sales by selling below cost, against the loss on unabsorbed overhead by selling at a profit. He must weigh the competitive advantages of maintaining his proportion of sales in an industry, and he is only in a good position to do this when the Cost Accounting Department can furnish him with a true cost based on normal production and expense.

Under such a system and under almost any system, there will at times be the problem of unabsorbed and over absorbed overhead to be disposed of. What shall be done with it? The government requires that it be closed out into profit and loss for tax purposes at the end of each year. This question was discussed at length at the Cost Accounting Committee of the National Electrical Manufacturers' Association, referred to later. The consensus of opinion was that over absorbed overhead should be carried in a reserve account over a period of years. Representatives from some of the larger companies were particularly strong on this idea. In these discussions it was made plain that the factor of variation in business today was so great that it really would not give a true picture of conditions and results to close out these unabsorbed and over absorbed overheads to profit and loss each year.

At the end of 1929 the Belden Company had a large amount of over absorbed overhead in reserve. I expressed the desire to the public accountants who made a very thorough audit of our books, that $50,000 of this amount be left in reserve. Our accountants strongly objected to this policy, saying that our set-up was such that under normal conditions we should absorb all our overhead, and to leave this amount in reserve would not give a true picture of profit for 1929. In 1930 we failed to absorb our overhead by over $100,000 on account of low production. In the first six months of 1930 we were undoubtedly impelled to maintain a higher rate of production than would have been maintained, to avoid loss on unabsorbed overhead. Had we left a substantial amount in reserve for unabsorbed overhead, we should undoubtedly have cut our production considerably in the first six months, which would have left us with a lower inventory at mid-year. This would have reduced our inventory loss from the heavy declines in commodity prices occurring in the last half of the year.

I had a chart made up of total manufacturing expense and absorbed expense for the five years ending and including 1930. During this period there were thirteen changes from under absorption to over absorption and back again. In the whole period with total manufacturing expense amounting to several millions of dollars, net unabsorbed expense was 21/100 of one percent for this five-year period. Better management of expenses would, undoubtedly, have saved much more than this, but we were surprised, ourselves, at the closeness of these two figures.

Possibly an industry like the automobile industry have set up their normal costs on a basis of flush production extending over a number of years and which cannot be expected to duplicate itself in the future. Some one has said that the only sure thing in business is change and I agree that business is too changeable to make any infallible rules for guides. Undoubtedly the automobile industry would be compelled under these circumstances to set up their costs and selling prices based on their best estimate of what the market will take, rather than on a period of years which cannot be duplicated. I would very much like to hear the experience of others on this matter.

There is a great demand today that production be stabilized so that employment may be stabilized. I believe that expansion programs should be planned for a five-year period, rather than carried out from year to year according to the exigencies of the market. Similarly I believe that business policies that are built around a stable cost will tend to stabilize production, prices and profits, as well as employment. Just at this time we can see no over absorption of overhead in sight, but it is our firm intention to start a permanent reserve account for overhead and to accumulate a reserve as soon as conditions permit. I believe that companies with progressive Accounting Departments will soon be handling overhead through a reserve account and I see no reason why the Treasury Department should not recognize this practice in making tax returns. The advantages in stabilization of taxes are very apparent.

Depreciation

Much has been written about this subject and it has been much discussed, and still I think that the importance of taking adequate charges to depreciation into cost is not properly appreciated. In 1917 a committee was appointed to prepare a uniform cost system for the electrical manufacturing industry. This committee was headed by Mr. C. E. Patterson, then Comptroller of the General Electric Company. It numbered about fifteen members appointed from large and small companies, including Westinghouse, Western Electric, Allis-Chalmers, etc. Most of the members were in the accounting end of the business, but some executive officers were appointed so that their viewpoint would not be overlooked. I have had the privilege of serving on this committee since its inception.

This committee has brought out five editions of its manual, the last numbering about one hundred pages, and is working perhaps more actively this year than for some time. It is now engaged in revising and bringing up to date the section on depreciation. Our company has used standard rates as printed in the manual since first adopted, and these rates are used by most of the large electrical companies, including the ones named.

Our charges to depreciation have averaged about $9 per share of our capital stock in recent years, and were $10 a share in 1930. Depreciation is by far the largest single item of our manufacturing cost. In 1929 depreciation charge was 14.5% of our total manufacturing expense and in 1930 it was 18.2%. These figures seem large. Stockholders and directors have suggested that we were charging too much into depreciation. I am satisfied that had we cut these rates 20% to 30%, that neither the public accountants who audited our books, nor our banks would have criticized our rates as being too small.

Between 1921 and 1931 there were a number of years in which earnings were so small that dividends could not be paid. A moderate change in our depreciation rates would have left $3 per share additional as earnings on the stock. I am confident that under these circumstances $300,000 would have been paid out in dividends that were urgently needed to keep our plant equipment up to date and in shape to meet the competitive conditions that prevailed. Competition has greatly stimulated invention and

development of improved machinery by outside makers and within our own plant. We have continually felt the need of replacing obsolete equipment, and in most cases have found that it was written down to such low figures on our books that we felt we could afford to scrap the machinery and write off the balance. Had we used lower rates of depreciation large amounts would have to be written off our books and the money to purchase the new equipment would have been paid out in dividends.

The argument is often made that it is proper to reduce depreciation charges in a bad year because the machinery has not been run and worn out. It is our experience that it is the bad years that stimulate research and invention, and the obsolescence that takes place in these years far exceeds the rate at which machinery is worn out in good years. When depreciation is slighted the largest factor of cost is often slighted with it, and the tendency is to produce demoralized price levels. In my opinion a Cost Accountant can do no greater service to his executive officers than to learn the facts about depreciation charges and show them the folly of slighting adequate depreciation rates in any year, good or bad.

Separation of Operating from Market Gains or Losses

Here is a field for the accountant which is as yet largely unexplored. In many recent years the gains and losses arising from fluctuation in our raw materials have completely overshadowed any operating profit we might obtain. During the War we evolved a scheme, rather crude from the accountant's point of view, which resulted in a considerable reserve against decline in inventory. In the deflation of 1921 this reserve was wiped out and for ten years we did not attempt the establishment of any permanent reserve for this purpose. I may say we had a feeling that the possession of a large reserve tended to make us perhaps a little careless in our buying and selling. Since then we have accumulated a monthly reserve which was closed out at the end of the year. We are again attempting to set up a permanent reserve on our books against inventory losses on copper. Copper is 50 per cent in value of the total material we use.

In our present scheme we carry material purchased into stores at actual cost. From stores it is carried into duplicate process material accounts—one in which material, labor and overhead are priced at standard costs—the other at actual costs. As the copper in process material at standard costs is always priced at 12 cents per pound, dividing by 12 will always give the total number of pounds.

As the duplicate accounts are identical in quantity and only differ in price, the average price of copper in "Process Material at Cost" can always be found by dividing the total value of copper by the total number of pounds.

A Percentage Is Figured

A percentage is figured of the average cost price to the standard price of copper. Similarly, a percentage is figured of other material, labor and overhead in process at actual cost to these same items at standard cost.

Goods are transferred from process to finished stock at standard costs and by applying the above percentages, the value of these same goods at actual costs is ascertained.

Each invoice covering shipments billed shows the value of copper only and the total cost, both at standard cost figures. Each invoice also contains a memorandum of the price of copper at which the sale was made. We now have besides the sale price of each invoice—The

1—Standard Cost

2—The Actual Cost.

3—The actual cost modified by changing the price of copper to that prevailing at date of sale.

With this information we arrive at the actual gross profit on each transaction, and similarly the profit on each transaction over the price of copper at which the sale was made. The difference between the two will be profit or loss due to market fluctuations in copper.

We believe the possession of this information will be a very considerable guide to our policies, and will help us to avoid losses which in the past have been quite serious. We should like to be able to find out the market gains and losses on our other raw materials silk, cotton, rubber and rayon, but as yet we have no accounting scheme to give us this information at a reasonable cost.

Target of Bitter Criticism

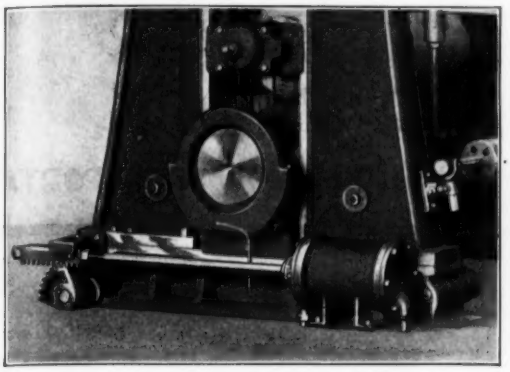
During the War and until the deflation of 1921 the meat packing companies were the target of bitter criticism and adverse legislation for their huge profits, which were largely due to market appreciation. Presuming that the packers did not have any segregation of their market from operating profits at that time—is it not reasonable to believe that if they had such information, that their financial affairs would have been handled differently with benefit to their stockholders' interest and their employees' interest by added stability of employment, which is of course in the public interest?

If commodity prices are going to fluctuate for the next ten years as they have in the last ten years, I feel sure that management will require that market gains and losses be segregated from operating gains and losses. In a year of rising commodity prices like 1929 it is difficult to realize the very considerable proportion of profits that were solely due to a rising market. To have accurate information would prevent money being paid out in dividends which should be conserved for the falling markets of depression years.

Importance of Cost Accounting

In closing I want to emphasize the growing importance of the Cost Accountant to business today. The fierce competition of today makes it absolutely requisite to start with a correct cost. No longer can the management afford to guess what they can do or to let their competitor figure the cost and underbid whatever price he makes, on the theory that "our overhead or some other item of cost must be lower than the other fellow's." In our business the small conferences that precede every important decision always include our Comptroller. If a conference starts without him we always find that he must be called before we can finish. Our junior executives all have to learn the principles of accounting.

Mr. Baker, who owns the leading newspaper in Cleveland and other newspapers, told one of our directors that he never appointed a manager for one of his newspaper properties who did not have a knowledge and understanding of the fundamental principles of accounting. The executive today must have accountants who at all times keep in mind the proper relationship of the cost of accounting to the value of the work in hand. It is of no use to figure the cost of a small special order down to a gnat's eyebrow, when it is the intention to add a large profit on account of the very small quantity. To the best of my knowledge the science of accounting has fully kept pace with the growing needs of industry. It is no small feat to handle a factory inventory of all kinds of material, translate units of all denominations into dollars, and have the balance in cash every night just as money in the cash drawer is counted, and with almost the same accuracy. Yet, it is done in many concerns today. I have found the problems in accounting as interesting and important as any in our business.



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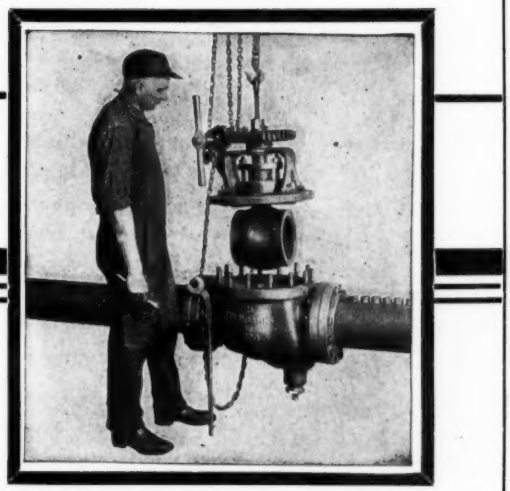

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NEW YORK IMPORTS

WEEK ENDING AUGUST 22, 1931

SUMMARY

Cigarette paper	1160 cs.
Wall paper	4 bls., 12 cs.
Paper hangings	3 bls., 3 cs.
News print	5754 rolls
Printing paper	97 rolls, 16 cs.
Packing paper	31 cs.
Filter paper	9 cs.
Tissue paper	43 cs.
Basic paper	21 rolls
Metal coated paper	58 cs.
Gold coated paper	7 cs.
Surface coated paper	10 cs.
Coated paper	4 cs.
Colored paper	3 cs.
Transfer paper	13 cs.
Decalcomania paper	8 cs.
Writing paper	26 cs.
Envelopes	3 cs.
Adhesive paper	4 cs.
Paper board	8 cs.
Card board	30 cs.
Card board boxes	5 cs.
Paper tubes	8 cs.
Miscellaneous paper	32 cs.

CIGARETTE PAPER

Brown & Williamson Tobacco Co., Majestic, Southampton, 10 cs.

Champagne Paper Corp., McKeesport, Havre, 328 cs.

American Tobacco Co., J. Cartier, Bordeaux, 822 cs.

WALL PAPER

F. J. Emmerich, Cedric, Liverpool, 2 bls.

F. J. Emmerich, Milwaukee, Hamburg, 1 cs.

F. A. Binder, Milwaukee, Hamburg, 1 cs.

Bush Service Corp., N. Amsterdam, Rotterdam, 2 cs.

Bush Service Corp., Berengaria, Southampton, 1 cs.

Guaranty Trust Co., New York, Hamburg, 6 cs.

F. J. Emmerich, New York, Hamburg, 2 bls.

Globe Shipping Co., New York, Hamburg, 1 cs.

PAPER HANGINGS

A. C. Dodman, Jr., Inc., Laconia, Liverpool, 1 ble.

W. H. S. Lloyd & Co., Minnekahda, London, 3 cs., 2 bls.

NEWS PRINT

W. H. Bell, Markland, Liverpool, N. S., 3810 rolls.

Jay Madden Corp., Jr. Roosevelt, Hamburg, 346 rolls.

Jay Madden Corp., Dresden, Bremen, 693 rolls.

Perkins, Goodwin & Co., Dresden, Bremen, 334 rolls.

Perkins, Goodwin & Co., Milwaukee, Hamburg, 167 rolls.

——, Milwaukee, Hamburg, 190 rolls.

——, New York, Hamburg, 214 rolls.

PRINTING PAPER

Keuffel & Esser, Pr. Roosevelt, Hamburg, 97 rolls.

J. Henschel & Co., Milwaukee, Hamburg, 12 cs.

Martin & Bechtold, Milwaukee, Hamburg, 4 cs.

PACKING PAPER

Philadelphia Bag Co., Milwaukee, Hamburg, 17 cs.

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FILTER PAPER

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——, Pr. Van Buren, Marseilles, 2 cs.

A. Giese & Son, New York, Hamburg, 3 cs.

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P. J. Schweitzer, Pr. Van Buren, Marseilles, 31 cs.

W. J. Byrnes, Berengaria, Southampton, 3 cs.

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METAL COATED PAPER

Globe Shipping Co., Dresden, Bremen, 53 cs.

K. Pauli Co., New York, Hamburg, 5 cs.

GOLD COATED PAPER

F. Murray Hill Co., Dresden, Bremen, 7 cs.

SURFACE COATED PAPER

——, New York, Hamburg, 6 cs.

Phoenix Shipping Co., New York, Hamburg, 2 cs.

Guaranty Trust Co., New York, Hamburg, 2 cs.

COATED PAPER

W. A. Foster & Co., Minnekahda, London, 4 cs.

COLORED PAPER

S. G. Gilbert, Dresden, Bremen, 2 cs.

National Freight F'd'g Co., Milwaukee, Hamburg, 1 cs.

TRANSFER PAPER

F. L. Kramer & Co., Dresden, Bremen, 13 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Laconia, Liverpool, 1 cs.

C. W. Sellers, New York, Hamburg, 7 cs.

WRITING PAPER

Japan Paper Co., Majestic, Southampton, 5 cs.

Guibout Freres, Majestic, Southampton, 8 cs.

Simfred, Berengaria, Southampton, 12 cs.

J. E. Bernard & Co., Berengaria, Southampton, 1 cs.

ENVELOPES

J. Beckhard & Co., Bremen, Bremen, 3 cs.

ADHESIVE PAPER

Heemsoth Basse & Co., N. Amsterdam, Rotterdam, 4 cs.

PAPER BOARD

——, H. Jaspar, Antwerp, 8 cs.

CARD BOARD

American Express Co., Milwaukee, Hamburg, 22 cs.

——, H. Jaspar, Antwerp, 8 cs.

CARD BOARD BOXES

Framerican Import Co., Pr. Van Buren, Marseilles, 5 cs.

PAPER TUBES

Thomas & Co., New York, Hamburg, 8 cs.

MISCELLANEOUS PAPER

Keller Dorian Paper Co., Majestic, Southampton, 19 cs.

Wilkinson, Grey & Co., Pr. Van Buren, Genoa, 11 cs.

M. Snedeker Corp., New York, Hamburg, 2 cs.

RAGS, BAGGINGS, ETC.

V. Galaup, Pipestone County, Havre, 73 bls. rags.

E. J. Keller Co., Inc., Pipestone County, ——, 141 bls. rags.

E. Mayer, Saco, Antwerp, 47 bls. cotton waste.

H. Schimmell, Saco, Antwerp, 372 bls. cotton waste.

J. Cohen & Son Co., Laconia, Liverpool, 19 bls. rags.

——, Laconia, Liverpool, 27 bls. rags.

——, Exarch, Genoa, 98 bls. rags.

T. D. Downing & Co., California, Glasgow, 73 bls. bagging.

Castle & Overton, Inc., California, Glasgow, 41 bls. paper stock.

——, J. Cartier, Havre, 211 bls. jute waste.

OLD ROPE

Brown Bros., Harriman & Co., Exeter City, Bristol, 63 coils.

CASEIN

Kalbfleisch Crop., Southern Cross, B. Ayres, 668 bags.

CHINA CLAY

Whitaker, Clark & Daniels, Laconia, Liverpool, 280 bags.

WOOD PULP

J. Andersen & Co., Gripsholm, Gothenburg, 250 bls. sulphite.

Perkins, Goodwin & Co., Gripsholm, Gothenburg, 230 bls. sulphate.

Russell McCandless, Gripsholm, Gothenburg, 300 bls. sulphite.

E. M. Sergeant & Co., Gripsholm, Gothenburg, 175 bls. sulphite.

Price & Pierce, Ltd., Gripsholm, Gothenburg, 125 bls. wood pulp.

Pagel, Horton & Co., Inc., Hjelmaren, Karskar, 4375 bls. sulphite.

Pagel, Horton & Co., Inc., Hjelmaren, Frederickskans, 500 bls. sulphite.

Castle & Overton, Inc., Pr. Roosevelt, Hamburg, 175 bls. wood pulp, 29 tons.

——, Pr. Roosevelt, Hamburg, 1000 bls. sulphate, 203 tons.

Castle & Overton, Inc., N. Amsterdam, Rotterdam, 320 bls. wood pulp.

Castle & Overton, Inc., New York, Hamburg, 310 bls. wood pulp, 62 tons.

Irving Trust Co., Dresden, Bremen, 600 bls. wood pulp.

Castle & Overton, Inc., Milwaukee, Hamburg, 1502 bls. wood pulp, 330 tons.

E. J. Keller Co., Inc., Karachi Maru, ——, 367 bls. wood pulp, 56 tons.

WOOD FLOUR

State Chemical Co., N. Amsterdam, Rotterdam, 500 bags.

——, N. Amsterdam, Rotterdam, 2000 bags.

BALTIMORE IMPORTS

WEEK ENDING AUGUST 22, 1931

Maryland Waste Co., Kerhonkson, Liverpool, 71 bls. rags.

Congoleum Nairn Co., Saco, Antwerp, 780 bls. rags; 94 bls. bagging.

National City Bank, J. Cartier, Havre, 98 bls. rags.

Russell McCandless, Carlsholm, Finland, 300 bls. dry ground wood.

NORFOLK IMPORTS

WEEK ENDING AUGUST 22, 1931

Dichman, Wright & Pugh, Saco, Antwerp, 45 bls. bagging.

Irving Trust Co., Saco, Antwerp, 30 bls. bagging.

E. J. Keller Co., Inc., West Arrow, ——, 96 bls. rags.

Union Screen Plate Company

Fitchburg, Mass., U. S. A. Lennoxville, P. Q., Canada

UNION BRONZE

SCREEN PLATES FOR FLAT SCREENS

6 SLOTS—5 SLOTS—4½ SLOTS—4 SLOTS—PER INCH

Old Plates Reclosed and Re-cut to Accurate Gauge
Rolled Phosphor Bronze and Copper Plates for Rotary Screens

Sole Manufacturers of the Union Witham Screen Plate Vat and Fastener

87 YEARS EXPERIENCE

In Making

Felts for Paper Manufacturers certainly recommends our ability to satisfactorily serve your requirements.

OUR **TRIUNE** AND
MULTIPLE PLY
DRYER FELTS

English Weave—Fine Face Felt in Three, Four, Five and Six Ply—60" to 214" in width—insure large production. Absolutely no felt marks in paper.

FITCHBURG DUCK MILLS

Established 1844

FITCHBURG, MASS.

1864 1931

"EXCELSIOR" FELTS

for every grade of

PULP AND PAPER

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Satin Style felts for finish.
Special felts to meet every condition.
Send us your felt problems.

KNOX WOOLEN COMPANY
CAMDEN, MAINE

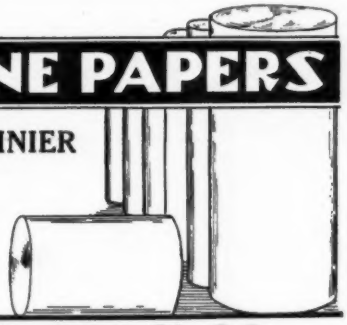
SOLD BY

BULKLEY, DUNTON & COMPANY
75-77 Duane St., N. Y., and direct

FINE FELTS for FINE PAPERS

FOR CYLINDER AND FOURDRINIER MACHINES

Let us solve your FELT Problems.



THE WATERBURY FELT CO.
SKANEATELES FALLS, N.Y.

Imports of Paper and Paper Stock

(Continued from page 50)

PORTLAND, ME., IMPORTS

WEEK ENDING AUGUST 22, 1931

Pagel, Horton & Co., Inc., Hjelmaren, Karskar, 500 bls. sulphate.

Waterfalls Papermills Co., Hjelmaren, Gothenburg, 5500 bls. chemical pulp.

BOSTON IMPORTS

WEEK ENDING AUGUST 22, 1931

Leigh Textile Co., Pipestone County, Dunkirk, 20 bls. thread waste.

T. D. Downing & Co., Pipestone County, Havre, 3 cs. writing paper.

Irving Trust Co., Pipestone County, Havre, 65 bls. string waste.

Hollingsworth Vose Co., Pipestone County, Havre, 110 bls. bagging.

Castle & Overton, Inc., Pipestone County, Havre, 43 bls. rags.

H. P. Lambert, Pipestone County, Havre, 25 bls. rags.

International Trust Co., Pipestone County, Havre, 120 bls. bagging.

H. P. Elliott, Pr. Jackson, Yokohama, 17 cs. paper.

Russell McCandless, Hjelmaren, Stockholm, 300 bls. unbleached sulphite.

Bulkley, Dunton & Co., Hjelmaren, ——, 1000 bls. wood pulp.

Perkins, Goodwin & Co., Hjelmaren, Gothenburg, 3721 bls. sulphate; 847 bls. sulphite.

J. Andersen & Co., Hjelmaren, Gothenburg, 1800 bls. sulphite.

The Borregaard Co., Inc., Hjelmaren, Gothenburg, 500 bls. chemical pulp.

Johaneson, Wales & Sparre, Inc., Hjelmaren, Gothenburg, 299 bls. dry soda pulp; 100 bls. sulphite.

National Shawmut Bank, Kerhonkson, Liverpool, 13 bls. rags.

E. J. Keller Co., Inc., Kerhonkson, ——, 68 bls. bagging.

——, Kerhonkson, Liverpool, 3 cs. wafer paper.

T. D. Downing & Co., Kerhonkson, Manchester, 17 bls. paper stock.

——, San Clemente, Tacoma, 525 tons wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING AUGUST 22, 1931

J. W. Hampton, Jr., Inc., Exeter City, Bristol, 93 tons china clay.

Strawbridge & Clothier, McKeesport, Havre, 1 cs. writing paper.

E. J. Keller Co., Inc., Ala, ——, 92 bls. rags.

E. J. Keller Co., Inc., Excello, ——, 87 bls. rags.

I. P. Co. Shows Increase in Earnings

International Paper and Power Company reports net revenue, including other income, for the second quarter of this year, of $10,488,226, compared with $10,292,995 last year. Such net revenue for the second quarter shows an increase of $492,995 over the final figures for the first quarter of this year as reduced by the retroactive effect of the cut in newsprint prices announced in April.

Balance added to surplus in the second quarter also shows an increase over both the corresponding period last year and the final figures for the first quarter of this year Last year the second quarter showed a decrease from the first quarter.

Comparative figures are as follows:

	Quarter ended June 30	
	1931	1930
Net revenue, including other income	$10,488,226	$10,292,995
Less: Depreciation	1,851,849	2,555,872
Interest and discount on funded debt, income taxes, and minority interest in subs.	5,511,092	4,986,057
Balance for dividends	3,125,285	2,751,066
Dividends on stocks of subsidiaries	2,111,849	2,150,010
Balance for I. P. & P. Co. dividends	1,013,436	601,056
Dividends on P. P. & P. Co. stock		
Preferred stock	.....	1,624,676
Class A common stock	.....	598,838
Total dividends	.....	2,223,514
	Six Months ended June 30	
	1931	1930
Net revenue, including other income	$20,483,458	$20,747,491
Less: Depreciation	3,728,946	4,993,227
Interest and discount on funded debt, income taxes, and minority interest in subs.	10,857,937	10,309,820
Balance for dividends	5,896,575	5,444,443
Dividends on stocks of subsidiaries	4,289,578	4,173,332
Balance for I. P. & P. Co. dividends	1,606,997	1,271,111
Dividends on I. P. & P. Co. stock		
Preferred stock	1,632,565	3,248,369
Class A common stock	.....	1,197,347
Total dividends	1,632,565	4,445,716

In his comments to shareholders, Archibald R. Graustein, President of the company says:

"The earnings for the first six months of 1931 reflect adjustments applicable to the first quarter which were made to cover the retroactive effect of the $5 a ton cut in newsprint prices announced in the Spring. Volume of business is still low and prices for most grades of paper are weak, but we are continuing to make progress in reducing operating costs so that earnings in the second quarter show a distinct increase over the final earnings for the first quarter after adjustment for the retroactive cut in newsprint prices mentioned above.

"Bank loans were reduced $4,000,000 during the quarter and further substantial reductions are expected during the last half of the year."

Tom Harvey to Retire

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, August 24, 1931.—Colin Gardner, Jr., vice president of the Gardner-Harvey paper mill interests, has announced at Middletown where the plants are located, that Tom Harvey, superintendent of maintenance for more than 20 years, will retire from activity with the firm October 1, 1931.

Mr. Harvey's plans were not announced at the time. He is one of the best-known paper mill men in the country, having been identified with the advancement of the Paper City for a long period of time, during which he has always been at the forefront not only in industrial matters, but in civic and welfare projects.

Paper mill superintendents from all sections of the country met Mr. Harvey in this city in June when he presided over the sessions of the twelfth annual convention of the American Pulp and paper Mill Superintendents' Association at the Biltmore hotel.

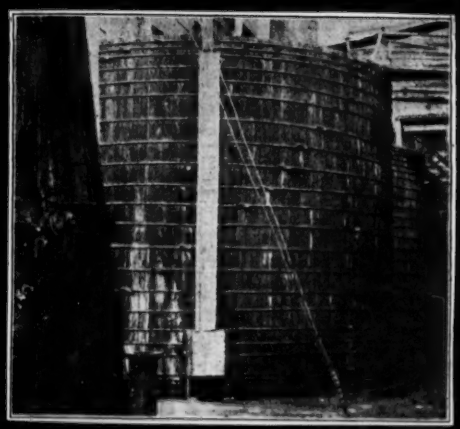
The program for this meeting was arranged under the personal direction of Mr. Harvey, who was general chairman of the convention committee. As mill manager of the Gardner-Harvey Company, he was recognized as one of the greatest authorities on paper mill practice in the country, and he put his knowledge to good practice in preparing a well-balanced program, one that proved of interest to superintendents concerned in the manufacture of all grades of paper.

Later, he accompanied the superintendents on a tour of the Miami Valley, in which a number of mills were inspected, including those in which he had a personal interest.

Kalamazoo Paper Co. Installs New Machine

KALAMAZOO, Mich., August 17, 1931.—The Kalamazoo Paper Company is now engaged in installing in its No. 2 mill a new 100 inch Rice, Barton and Fales Fourdrinier machine to replace an 88 inch machine, that has been in operation for 40 years. The old machine was the first unit of the equipment of the old Botsford Paper Company, later known as the Wolverine Paper Company. The Kalamazoo Paper Company acquired the old Wolverine about 1900.

Foundation work for the installation of the new machine is now being constructed by the O. F. Miller Company. It is also necessary to make some other changes in the No. 2 mill to accommodate the improved machinery.



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we have been building—

Sulphite Liquor Tanks, double-headed, of 6" Long Leaf Yellow Pine, built for the Champion Fiber Company, Canton, N. C. These tanks are 28' diameter with 20' staves.

Wood tanks for paper mills, stuff chests, acid storage tanks, blow pits, beater tubs, alum tanks, rubber-lined muriatic acid storage tanks made of Red Gulf Cypress.

Let us quote on your requirements.

WOOD TANKS

The Hauser-Stander Tank Co.
Cincinnati Ohio

SOLVAY PRODUCTS

SODA ASH
CAUSTIC SODA

Liquid Chlorine

Contract or Spot Delivery
In tank cars and multiple unit cars.

Write for Prices

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DISPENSING CABINETS
AND
FIXTURES
THE STANDARD OF THE PAPER TRADE
GRIFFITH-HOPE CO.
WEST ALLIS, WIS.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, August 26, 1931.

Conditions in the local paper market are practically unchanged. Business continues quiet, affected by the usual mid-summer lull. There are some promising inquiries around, however, which should eventually materialize into good orders and the outlook for the closing months is fairly encouraging. Prices are generally holding to previously quoted levels.

News print production is being maintained in sufficient volume to take care of current requirements. Shipments are going forward at a fairly satisfactory pace. Consumption should expand after Labor Day, as the volume of advertising grows in the closing months of the year and more pages are required in the daily and Sunday newspapers.

Some improvement was noticed in the paper board market. Demand for box board appears to be steadily increasing. Although still considered too low, prices are more stabilized. While demand for the various grades of fine paper is somewhat restricted, inquiries for future needs are fairly persistent. The coarse paper market is irregular. Kraft wrapping paper is moving in seasonal volume.

Mechanical Pulp

Due to a variety of causes, the ground wood market continues in a strong statistical position. The Norwegian pulp mill workers strike is still going on, but apparently is not affecting the situation in this country. Contract shipments of both domestic and imported mechanical pulp are fairly heavy. Prices are holding to schedule, in most instances.

Chemical Pulp

Steadiness continues to prevail in the chemical pulp market. Offerings of both imported and domestic chemical pulp are about sufficient to take care of current needs. Demand for kraft pulp is well maintained and quotations are firm. Inquiries are fairly numerous. Prices are generally holding to previously quoted levels, without difficulty.

Old Rope and Bagging

Dullness reigns in the old rope market. The paper mills are not displaying much interest in either domestic or foreign old manila rope. Small mixed rope is quiet. Old rope prices are practically unchanged. Scrap bagging is only moderately active. Gunny bagging is spotty Roofing bagging is in slightly better request, however. Prices generally remain unchanged.

Rags

The domestic rag market continues irregular. Paper mill demand for cotton rags is light. Roofing grades, on the other hand, are in excellent request and, with offerings scarce, prices are somewhat firmer. Mixed rags continue slow. The imported rag market is listless. Demand should be more lively, however, in the near future. Prices of the various grades of rags are fairly steady.

Waste Paper

Business in the paper stock market continues buoyant. Board mill demand for the lower grades, especially mixed papers and strictly folded news, is more lively, with the result that prices are firmer. Book stock is showing some improvement. Old kraft machine compressed bales are in fairly good request. On the whole, the future outlook is brighter.

Twine

Most of the business transacted in the local twine market during the past week was along routine lines. Supplies are going forward into consumption in moderate volume. Inquiries for the various grades are increasing, however, and the prospects for the last quarter of the year are excellent. In most instances, prices are steady and unchanged.

Union Bag & St. Regis Merger Rumored

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., August 24, 1931.—It is rumored that a merger between the Union Bag and Paper Company and the St. Regis Paper Company is being contemplated although officials of the local concern expressed great surprise when questioned relative to the matter. The rumors started following the retirement of Ralph B. Maltby as vice president of the St. Regis Company and the taking over of the active management of that concern by C. R. McMillan, who had been identified for many years with the interests controlling the local company. In connection with the proposed combine it is also reported that Thomas Wark, an official of the Three Rivers, P. Q., mill of the Union Bag & Paper Co., will soon be appointed general manager of the St. Regis interest. He is well known in this section.

It is said that highly competitive conditions are largely instrumental for the gossip regarding a combine of these concerns. The local concern is rated as the largest bag manufacturing concern in the country while the St. Regis interests also hold a prominent place. It is claimed that a merger of the two would make the combination the strongest and largest in the country.

Amalgamated Paper Co. Busy

[FROM OUR REGULAR CORRESPONDENT]

FORT EDWARD, N. Y., August 24, 1931.—Business conditions at the mill of the Amalgamated Paper Co. continue unusually good and a large force of local residents are being steadily employed. The plant has been running with day and night forces since early in the spring in an effort to keep pace with the demand for tablets and other products turned out. Indications are that these schedules will be effective for some time and the company is now planning further enlargement of its facilities. Since locating here about two years ago the concern has shown rapid growth and it now employs over double the original force.

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Jefferson St. Arcade, Dayton, O.
Guarantee Bldg., Montreal, P. Q.

Fourdrinier Wires, all widths up to 300 inches

DIMOND WIRES

NEUMEYER & DIMOND

Established 1904

82-92 Beaver St. New York

Dietz Towel Interfolding Machines
also

TOILET PAPER MACHINES
For making Toilet and Paper Towel Rolls
(With or without perforations)

AUTOMATIC TUBE MACHINES
For Making Wire-Stitched Toilet Tubes

Sanitary Crepe Towel Machines, Roll Tighteners, Slitting and Rewinding Machines, Drop Roll Slitting Machines, Photo Mount Beveling Machines, Rotary Card Cutting Machines, etc.
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DIETZ MACHINE WORKS

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Cor. Waterloo St. (between Front & Second Sts.)
and below Diamond St.
Phila., Penna., U. S. A.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, August 26, 1931.

BLANC FIXE.—Steadiness prevailed in the blanc fixe market during the past week. Prices are holding to schedule. The pulp is quoted at from $42.50 to $45.00 per ton, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market was rather quiet. Contract shipments, however, are moving in good volume. Prices remain unchanged. Bleaching powder is quoted at from $2 to $2.35 per 100 pounds, in drums, at works, according to grade.

CASEIN.—Demand for casein is light. Domestic standard ground is quoted at 6 cents and finely ground at 7½ cents per pound. Argentine standard ground is selling at 8½ cents and finely ground at 9½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—The caustic soda market was moderately active. Prices are holding to schedule. Solid caustic soda is quoted at from $2.50 to $2.55; while the flake and the ground are selling at from $2.90 to $2.95 per 100 pounds, in large drums, at works.

CHINA CLAY.—Conditions in the china clay market are fairly satisfactory. The contract movement is seasonal. Imported china clay is still selling from $13 to $21 per ton, ship side; while domestic paper making clay is quoted at from $7 to $11 per ton, at mine.

CHLORINE.—The position of the chlorine market was practically unchanged. Contract shipments were fairly heavy. Prices are generally holding to schedule. Chlorine is quoted at $1.75 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—Some improvement was noticed in the rosin market. The grades of gum rosin used in the paper mills are quoted at from $4.15 to $4.30 per 280 pounds, in barrels, at works. Wood rosin is selling at $3.70 per 280 pounds, in barrels, on dock, car lot quantities.

SALT CAKE.—The trend of the salt cake market is steady, despite the prevailing quietness. Salt cake is quoted at from $16 to $17 and chrome salt cake at from $14 to $15 per ton, in bulk, at works. Foreign salt cake is selling at from $15 to $15.50 per ton, ship side.

SODA ASH.—Supplies of soda ash are going forward to the paper mills with regularity. Prices are holding to schedule. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1; in bags, $1.15; and in barrels, $1.38.

STARCH.—Most of the business transacted in the starch market during the past week was along routine lines. Shipments against contract are moving at a normal pace. Special paper making starch is quoted at $2.67, in bags; and at $2.94 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—The sulphate of alumina market continues to exhibit a fairly strong undertone. Commercial grades are still quoted at from $1.25 to $1.40; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton for any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Paper mill demand for talc is restricted at present. Offerings are quite ample to cope with current requirements. Domestic talc is $16 to $18 per ton, in bulk, imported is $18 to $22 per ton, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@	38.00
Bonds	6.75	@	53.25
Writings—			
Extra Superfine	14.00	@	32.00
Superfine	14.00	@	32.00
Tub sized	10.00	@	15.00
Engine sized	6.75	@	11.00
Book, Cased—			
S. & S. C.	5.25	@	—
M. F.	5.00	@	—
Coated and Enamel	6.75	@	10.25
Lithograph	7.25	@	11.75
Tissues—Per Ream—			
White No. 1	.65	@	.70
Anti-Tarnish M. G. only	.65	@	.70
Colored	.70	@	.90
White No. 2	.55	@	.60
Kraft	.65	@	.70
Manila	.55	@	.60
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.09¼	@	—
No. 2	.11¼	@	—
Bleached, basis 20 lbs.	.11¼	@	—
(Delivered New York)			
News, per ton—			
Rolls, contract	57.00	@	—
Rolls, spot	57.00	@	—
Sheets	62.00	@	—
Side Runs	42.00	@	46.00
Kraft—			
No. 1 Domestic	4.50	@	5.75
No. 2 Domestic	4.00	@	4.50
Southern	3.45	@	4.25
Imported	6.00	@	7.00
Boards—per ton—			
News	26.00	@	27.50
Straw	34.50	@	45.00
Chip	26.00	@	27.50
Binders' Boards	65.00	@	70.00
Standard 85 Test Liner	32.50	@	35.00
Sgl. Mla. Ll. Chip	37.50	@	42.50
(F. o. b. Mill)			
Wood Pulp Boards	70.00	@	80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—			
Moist	24.00	@	28.00
Dry	26.00	@	28.00
(F. o. b. Mill)			
No. 1 Domestic	25.00	@	30.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	2.50	@	3.50
Easy Bleaching	2.15	@	2.35
No. 1 strong unbleached	1.90	@	2.25
Mitscherlich unbleached	2.00	@	2.25
No. 2 strong unbleached	1.75	@	1.90
No. 1 Kraft	1.50	@	1.70
No. 2 Kraft	1.40	@	1.50
Sulphate—			
Bleached	2.75	@	3.25
(F. o. b. Pulp Mill)			
Sulphite (Domestic)—			
Bleached	2.25	@	4.75
Easy Bleaching	2.50	@	2.75
News	1.80	@	2.50
Mitscherlich	2.40	@	3.00
Kraft (Domestic)	1.60	@	2.75
(Delivered Paper Mills)			
Soda Bleached	3.00	@	—

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.50	@	7.00
New White, No. 2	5.50	@	6.00
Silesias No. 1	5.25	@	5.50
New Unbleached	7.00	@	7.50
New Blue Prints	4.00	@	4.50
New Soft Blacks	3.50	@	4.00
Blue Overall	5.00	@	5.25
Fancy	3.00	@	3.50
Washables	2.75	@	3.00
Mixed Khaki Cuttings	3.50	@	4.00
Pink Corset Cuttings	5.00	@	5.50
O. D. Khaki Cuttings	4.50	@	4.75
Men's Corduroy	3.00	@	3.50
New Mixed Blacks	3.00	@	3.25

Old Rags

White, No. 1—			
Repacked	5.25	@	5.75
Miscellaneous	4.25	@	4.75
White, No. 2—			
Repacked	3.00	@	3.50
Miscellaneous	2.30	@	2.50
St. Soiled, White	1.50	@	1.75
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.65	@	1.85
Black Stockings	3.25	@	3.75
Roofing Rags—			
Cloth Strippings	1.25	@	1.30
No. 1	1.25	@	1.30
No. 2	.90	@	1.00
No. 3	.70	@	.80
No. 4	.65	@	.70
No. 5A	.50	@	.60

Foreign Rags

New Rags

New Dark Cuttings	2.00	@	2.15
New Mixed Cuttings	2.10	@	2.40
New Light Silesias	5.00	@	5.38
Light Flannelettes	5.00	@	5.25
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.00	@	6.25
New Light Oxfords	5.00	@	5.50
New Light Prints	3.10	@	3.25

Old Rags

No. 1 White Linens	6.25	@	6.50
No. 2 White Linens	5.25	@	5.50
No. 3 White Linens	3.75	@	4.25
No. 4 White Linens	2.25	@	2.75
No. 1 White Cotton	4.50	@	5.00
No. 2 White Cotton	3.50	@	4.25
No. 3 White Cotton	2.50	@	3.25
No. 4 White Cotton	1.50	@	1.75
Extra Light Prints	1.90	@	2.10
Ord. Light Prints	1.75	@	1.90
Med. Light Prints	1.40	@	1.55
Dutch Blue Cottons	1.50	@	1.60
French Blue Linens	2.25	@	2.40
German Blue Linens	2.00	@	2.10
German Blue Cottons	1.35	@	1.40
Checks and Blues	1.40	@	1.45
Lindsay Garments	.90	@	1.00
Dark Cottons	.70	@	.75
Old Shopperies	.65	@	.70
New Shopperies	.60	@	.65
French Blues	1.40	@	1.50

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.55	@	1.65
Domestic	1.65	@	1.80
Wool Tares, light	1.15	@	1.20
Wool Tares, heavy	1.15	@	1.20
Bright Bagging	1.10	@	1.15
Small Mixed Rope	.90	@	1.00
Manila Rope—			
Foreign	1.75	@	1.85
Domestic	1.90	@	2.00
New Burlap Cut	1.70	@	1.80
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
Hard, white, No. 1	2.65	@	2.85
Hard, white, No. 2	2.10	@	2.20
Soft, white, No. 1	2.10	@	2.20
White envelope cuttings	2.35	@	2.50
Flat Stock—			
Stitchless	.70	@	.80
Overissue Mag	.70	@	.80
Solid Flat Book	.60	@	.70
Crumpled No. 1	.48	@	.53
Solid Book Ledger	1.75	@	1.85
Ledger Stock	.65	@	.75
New B. B. Chips	.20	@	.30
Manilas—			
New Env. Cut	1.75	@	1.85
New Cuttings	1.40	@	1.50
Extra No. 1 old	1.10	@	1.25
Print	.45	@	.50
Bogus Wrapper	.45	@	.50
Container	.30	@	.35
Old Kraft Machine—			
Compressed bales	1.20	@	1.30
News—			
No. 1 White News	1.60	@	1.65
Strictly Overissue	.35	@	.45
Strictly Folded	.25	@	.30
No. 1 Mixed Paper	.25	@	.30
Common Paper			Nominal

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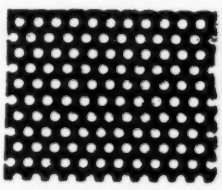

".063" Round

CHARLES MUNDT & SONS

63-65 FAIRMONT AVE. JERSEY CITY, N. J.

Twines

(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finished Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.13	@	—
No. 2	.11	@	—
Tube Rope—			
4-ply and larger	.09	@	—
Fine Tube Rope—			
4-ply	.11	@	—
3-ply	.12	@	—
2-ply	.13	@	—
Paper Makers Twine Balls	.07	@	—
Box Twine, 2-3 ply	.07	@	.08
Jute Rope	.09	@	.10
Amer. Hemp, 6	.27	@	.29
Java Sisal—			
No. 1 Basis	.10	@	—
No. 2 Basis	.09	@	—
New Zealand Sisal	.10	@	—
Sisal Lath Yarn—			
No. 1	.12	@	.14
No. 2	.10	@	.12
Manila Twine	.21	@	.22

CHICAGO

Paper

(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¼	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	5.00	@	5.50
Southern Kraft	3.75	@	4.00
No. 2 Kraft	3.75	@	4.00
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.07	@	.07¼
White Tissue	.07¼	@	.07½

(Delivered Central Territory)

News, per ton—			
Rolls, contract	57.00	@	—
Sheets	62.00	@	—
Boards, per ton—			
Plain Chip	30.00	@	35.00
Solid News	32.50	@	37.50
Manila Lined Chip	40.00	@	45.00
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cuttings	—	@	—
No. 1 Soft Shavings	2.10	@	2.15
Ledger & Writings	.70	@	.75
Solid Books	.75	@	.80
Blanks	1.60	@	1.65
Krafts	1.25	@	1.35
New Kraft Cuts	1.35	@	1.45
Manila Env. Cuts	1.50	@	1.55
Ex. No. 1 Manila	1.25	@	1.30
Print Manila	.40	@	.45
Overissue News	.40	@	.45
Old Newspapers—			
No. 1	.35	@	.40
No. 2	.30	@	.35
Mixed Papers—			
No. 1	.28	@	.30
No. 2	.20	@	.25
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.07	@	.40
Writings—			
Superfine	.12	@	.18
Extra fine	.16	@	.22
Fine	.15	@	.26
Fine, No. 2	.12	@	.25
Fine, No. 3	.07	@	.20
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07¼
Book, Coated	.07	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.03¼	@	.05½
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03¼	@	.04¼
Southern Kraft No. 1	—	@	.04
Southern Kraft No. 2	—	@	.03¼
Common Bogus	.03	@	.04

(Delivered Philadelphia)

News Print Rolls	58.00	@	62.00
Straw Board	50.00	@	—
News Board	29.00	@	30.00
Chip Board	25.00	@	27.50
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00	@	—
No. 2, per ton	66.00	@	—
Carload lots	62.00	@	67.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.06	@	.06½
New White, No. 2	.05	@	.05½
Light Silesias	.05	@	.05½
Silesias, No. 1	.06	@	.08
Black Silesias, soft	.05	@	—
New Unbleached	.06	@	.06½
Washable, No. 1	.02½	@	.03
Blue Overall	.05	@	.05½
Cottons—According to grades—			
Washable, No. 2	.02	@	.02½
New Blue	.02	@	.02½
Fancy	.03	@	.03¾
New Black Soft	.03	@	.03½
New Light Seconds	.01¾	@	.02
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.04½	@	.05
No. 2 Mixed	.03½	@	.04
Corduroy	.02½	@	.03
New Canvas	.06½	@	.07
New Black Mixed	.03	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	3.50	@	4.00
Miscellaneous	2.25	@	2.75
M. G.	4.50	@	—
Thirds and Blues—			
Miscellaneous	1.25	@	1.50
Repacked	1.75	@	2.00
Black Stockings (Export)	3.80	@	4.00
Roofing Stock—			
Foreign No. 1	1.15	@	1.25
Repacked	.80	@	.90

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	2.25	@	2.50
Sisal Rope	1.25	@	1.50
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.30	@	2.35
No. 2 Hard White	2.00	@	2.05
No. 1 Soft White	1.75	@	1.85
No. 2 Soft White	1.30	@	1.45
No. 1 Mixed	.75	@	.80
No. 2 Mixed	.50	@	.55
Solid Ledger Stock	1.25	@	1.30
Writing Paper	.70	@	.80
No. 1 Books, heavy	.75	@	.80
No. 2 Books, light	Normal		
No. 1 New Manila	1.60	@	1.75
No. 1 Old Manila	1.25	@	1.30
Print Manila	.40	@	.50
Container Manila	.40	@	.45
Old Kraft	.90	@	1.05
Common Paper	.20	@	.25
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Corrugated Board	.40	@	.45
Overissue News	.35	@	.40
Old Newspaper	.25	@	.30

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag Content	.15	@	.30
All Rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04½	@	.05½
No. 2 Kraft	.03¾	@	.04½

(F. o. b. Boston)

Southern Kraft	.03¾	@	.04

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02	@	.02¼

(Delivered New England points)

News Print, rolls	—	@	56.50
Straw Board, rolls	.009	—	@52.50
Straw Board in Sheets, basis 35s to 70s	—	@	50.00
Filled News Board	27.50	@	30.00
Chip Board	27.50	@	—
Chip Board (Creasing)	27.50	@	30.00
Single Manila Lined Chip	40.00	@	45.00
Single White, Patent Coated News Board—Binder	52.50	@	60.00
Wood Pulp Board	70.00	@	75.00
Binder Boards	67.50	@	75.00

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.75	@	3.50
No. 2 Hard White	2.25	@	2.50
No. 1 Soft White	2.00	@	2.25
No. 2 Mixed	.60	@	.65
No. 1 Mixed	.90	@	1.00
Solid Ledger Books	1.75	@	2.00
Overissue Ledger Stock	1.35	@	1.60
Mixed Ledgers	1.15	@	1.30
No. 1 Books, heavy	.60	@	.65
No. 1 Books, light	—	@	.45
Crumpled Stitchless Book Stock	1.00	@	1.25
Manila Env. Cuttings	1.85	@	2.00
No. 1 Old Manila	—	@	1.00
White Blank News	1.50	@	1.60
Kraft No. 1	—	@	1.25
Manila	.80	@	.90
No. 1 Mixed Paper	.16	@	.20
Print Manila	.35	@	.40
Overissue News	—	@	.40
Old Newspapers	.25	@	.30
Box Board, Chip	.16	@	.20
Corrugated Boxes	.35	@	.45

Bagging

(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.55	@	—
Domestic	1.50	@	—
Manila Rope—			
Foreign	—	@	1.75
Domestic	—	@	2.00
Transmission Rope	1.40	@	1.50
Mixed String	.50	@	.55
Jute Rope	1.00	@	1.15
Jute Carpet Threads	.75	@	.90
Bleachery Burlap	2.50	@	2.75
No. 1 Scrap Burlap	1.10	@	1.25
Scrap Sisal	1.35	@	1.45
Scrap Sisal for shredding	1.50	@	1.60
Wool Tares, heavy	1.25	@	1.30
New Burlap Cutting	1.50	@	1.25
Australian Pouches	2.00	@	2.25
Heavy Baling Bagging	1.50	@	1.60
Paper Mill Bagging	.90	@	1.05
Bagging No. 2	.50	@	—
No. 1 Burlap	—	@	3.50

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.06½	@	.07
New White No. 2	—	@	.06
Silesias No. 1	.06	@	.06¼
New Black Silesias	.02½	@	.02¾
New Unbleached	—	@	.08
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades—			
Blue Overalls	.05	@	.06
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04	@	.04½
O. D. Khaki	.04½	@	.05
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	—	@	4.00
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.50	@	2.75
Thirds and Blues—			
Repacked	1.60	@	1.80
Miscellaneous	1.00	@	1.20
Black Stockings	3.25	@	3.50
Roofing Stock—			
No. 1	—	@	.63
No. 2	—	@	.58
No. 3	—	@	.53

Foreign Rags

(F. o. b. Boston)

Dark Cottons	—	@	.70
New No. 1 White Shirt Cuttings	6.50	@	6.75
Dutch Blues	—	@	1.80
New Checks & Blues	4.00	@	4.50
Old Fustians	1.55	@	1.65
Old Linsey Garments	.80	@	.90

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¾	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.11¾	@	—
No. 2 Colored	.09	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	6.65	@	—
No. 3 M. F. (carloads)	6.20	@	—
No. 1 S. C. (carloads)	7.15	@	—
No. 3 S. C. (carloads)	6.65	@	—
No. 4 S. C. (carloads)	5.70	@	—
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.50	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft No. 2	5.40	@	—

(Delivered Toronto)

News, per ton—			
Rolls (contract)	56.50	@	57.00
Sheets	61.50	@	—

Pulp

(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	50.00	@	—
Sulphite, news grade	44.00	@	—
Sulphite, bleached	62.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.80	@	—
Soft White	2.60	@	—
White Blk. News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.10	@	—
Light and Crumpled Book Stock	1.20	@	—
Ledgers and Writings	—	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	.80	@	—
Kraft	1.90	@	—
News and Scrap—			
Strictly Overissue	.70	@	—
Strictly Folded	.70	@	—
No. 1 Mixed Paper	.60	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

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PAPER TRADE JOURNAL

ESTABLISHED 1872

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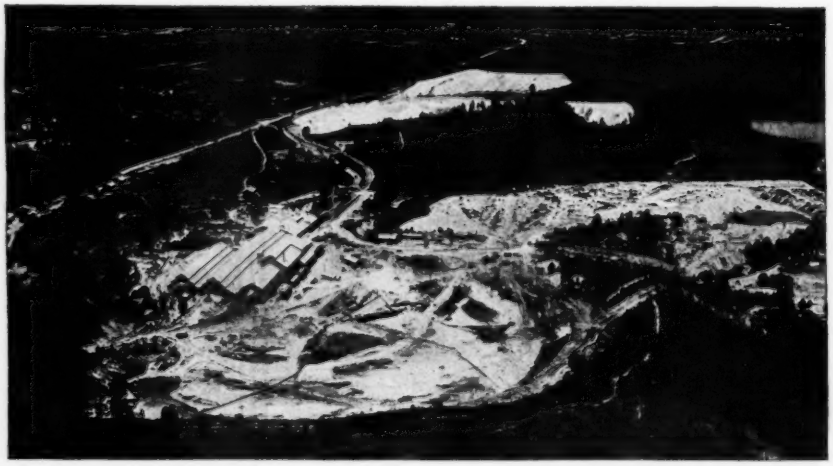

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